

Connecting via Winsock to STN

Welcome to STN International! Enter x:x

LOGINID:SSPTADEG1625

PASSWORD:

TERMINAL (ENTER 1, 2, 3, OR ?):2

\* \* \* \* \* Welcome to STN International \* \* \* \* \*

NEWS 1 Web Page for STN Seminar Schedule - N. America  
NEWS 2 MAY 01 New CAS web site launched  
NEWS 3 MAY 08 CA/Capplus Indian patent publication number format defined  
NEWS 4 MAY 14 RDISCLOSURE on STN Easy enhanced with new search and display fields  
NEWS 5 MAY 21 BIOSIS reloaded and enhanced with archival data  
NEWS 6 MAY 21 TOXCENTER enhanced with BIOSIS reload  
NEWS 7 MAY 21 CA/Capplus enhanced with additional kind codes for German patents  
NEWS 8 MAY 22 CA/Capplus enhanced with IPC reclassification in Japanese patents  
NEWS 9 JUN 27 CA/Capplus enhanced with pre-1967 CAS Registry Numbers  
NEWS 10 JUN 29 STN Viewer now available  
NEWS 11 JUN 29 STN Express, Version 8.2, now available  
NEWS 12 JUL 02 LEMBASE coverage updated  
NEWS 13 JUL 02 LMEMLINE coverage updated  
NEWS 14 JUL 02 SCISEARCH enhanced with complete author names  
NEWS 15 JUL 02 CHEMCATS accession numbers revised  
NEWS 16 JUL 02 CA/Capplus enhanced with utility model patents from China  
NEWS 17 JUL 16 Capplus enhanced with French and German abstracts  
NEWS 18 JUL 18 CA/Capplus patent coverage enhanced  
NEWS 19 JUL 26 USPATFULL/USPAT2 enhanced with IPC reclassification  
NEWS 20 JUL 30 USGENE now available on STN  
NEWS 21 AUG 06 CAS REGISTRY enhanced with new experimental property tags  
NEWS 22 AUG 06 BEILSTEIN updated with new compounds  
NEWS 23 AUG 06 FSTA enhanced with new thesaurus edition

NEWS EXPRESS 29 JUNE 2007: CURRENT WINDOWS VERSION IS V8.2,  
CURRENT MACINTOSH VERSION IS V6.0c(ENG) AND V6.0Jc(JP),  
AND CURRENT DISCOVER FILE IS DATED 05 JULY 2007.

NEWS HOURS STN Operating Hours Plus Help Desk Availability  
NEWS LOGIN Welcome Banner and News Items  
NEWS IPC8 For general information regarding STN implementation of IPC 8

Enter NEWS followed by the item number or name to see news on that specific topic.

All use of STN is subject to the provisions of the STN Customer agreement. Please note that this agreement limits use to scientific research. Use for software development or design or implementation of commercial gateways or other similar uses is prohibited and may result in loss of user privileges and other penalties.

\* \* \* \* \* STN Columbus \* \* \* \* \*

FILE 'HOME' ENTERED AT 09:36:16 ON 08 AUG 2007

=> file registry

COST IN U.S. DOLLARS

SINCE FILE

TOTAL

ENTRY

SESSION

FULL ESTIMATED COST

0.21

0.21

FILE 'REGISTRY' ENTERED AT 09:36:40 ON 08 AUG 2007

USE IS SUBJECT TO THE TERMS OF YOUR STN CUSTOMER AGREEMENT.

PLEASE SEE "HELP USAGETERMS" FOR DETAILS.

COPYRIGHT (C) 2007 American Chemical Society (ACS)

Property values tagged with IC are from the ZIC/VINITI data file provided by InfoChem.

STRUCTURE FILE UPDATES: 7 AUG 2007 HIGHEST RN 944239-85-4

DICTIONARY FILE UPDATES: 7 AUG 2007 HIGHEST RN 944239-85-4

New CAS Information Use Policies, enter HELP USAGETERMS for details.

TSCA INFORMATION NOW CURRENT THROUGH December 2, 2006

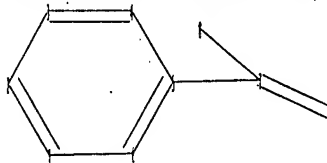
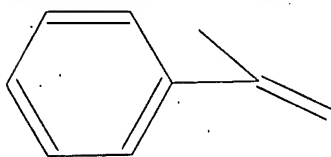
Please note that search-term pricing does apply when conducting SmartSELECT searches.

REGISTRY includes numerically searchable data for experimental and predicted properties as well as tags indicating availability of experimental property data in the original document. For information on property searching in REGISTRY, refer to:

<http://www.cas.org/support/stngen/stdoc/properties.html>

=>

Uploading C:\Program Files\Stnexp\Queries\10-550058genB.str



chain nodes :

7 8 9

ring nodes :

1 2 3 4 5 6

chain bonds :

5-7 7-8 7-9

ring bonds :

1-2 1-6 2-3 3-4 4-5 5-6

exact bonds :

5-7 7-8 7-9

normalized bonds :

1-2 1-6 2-3 3-4 4-5 5-6

Match level :

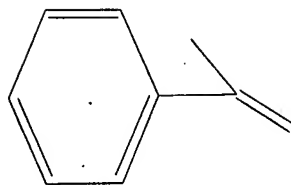
1:Atom 2:Atom 3:Atom 4:Atom 5:Atom 6:Atom 7:CLASS 8:CLASS 9:CLASS

L1 STRUCTURE UPLOADED

=> d l1

L1 HAS NO ANSWERS

L1 STR



Structure attributes must be viewed using STN Express query preparation.

```
=> s l1 exact
SAMPLE SEARCH INITIATED 09:37:53 FILE 'REGISTRY'
SAMPLE SCREEN SEARCH COMPLETED - 23 TO ITERATE
```

```
100.0% PROCESSED      23 ITERATIONS      3 ANSWERS
SEARCH TIME: 00.00.01
```

```
FULL FILE PROJECTIONS:  ONLINE  **COMPLETE**
                        BATCH   **COMPLETE**
PROJECTED ITERATIONS:   173 TO    747
PROJECTED ANSWERS:      3 TO     163
```

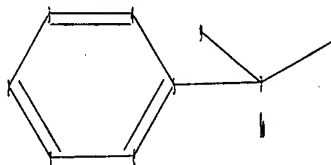
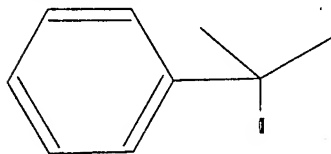
```
L2          3 SEA EXA SAM L1
```

```
=> s l1 exact full
FULL SEARCH INITIATED 09:38:29 FILE 'REGISTRY'
FULL SCREEN SEARCH COMPLETED - 569 TO ITERATE
```

```
100.0% PROCESSED      569 ITERATIONS      57 ANSWERS
SEARCH TIME: 00.00.01
```

```
L3          57 SEA EXA FUL L1
```

```
=>
Uploading C:\Program Files\Stnexp\Queries\10-550058genA.str
```



```
chain nodes :
7 8 9 10
ring nodes :
1 2 3 4 5 6
chain bonds :
5-7 7-8 7-9 7-10
ring bonds :
1-2 1-6 2-3 3-4 4-5 5-6
exact/norm bonds :
7-10
exact bonds :
5-7 7-8 7-9
normalized bonds :
1-2 1-6 2-3 3-4 4-5 5-6
```

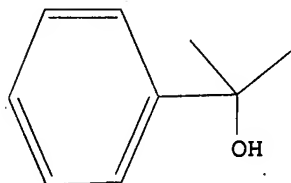
```
Match level :
1:Atom 2:Atom 3:Atom 4:Atom 5:Atom 6:Atom 7:CLASS 8:CLASS 9:CLASS 10:CLASS
```

L4        STRUCTURE UPLOADED

=> d 14

L4 HAS NO ANSWERS

L4                STR



Structure attributes must be viewed using STN Express query preparation.

=> s 14 exact full

FULL SEARCH INITIATED 09:39:15 FILE 'REGISTRY'

FULL SCREEN SEARCH COMPLETED -        191 TO ITERATE

100.0% PROCESSED        191 ITERATIONS

11 ANSWERS

SEARCH TIME: 00.00.01

L5                11 SEA EXA FUL L4

=> file caplus

COST IN U.S. DOLLARS

SINCE FILE

TOTAL

ENTRY

SESSION

FULL ESTIMATED COST

117.85

118.06

FILE 'CAPLUS' ENTERED AT 09:39:38 ON 08 AUG 2007

USE IS SUBJECT TO THE TERMS OF YOUR STN CUSTOMER AGREEMENT.

PLEASE SEE "HELP USAGETERMS" FOR DETAILS.

COPYRIGHT (C) 2007 AMERICAN CHEMICAL SOCIETY (ACS)

Copyright of the articles to which records in this database refer is held by the publishers listed in the PUBLISHER (PB) field (available for records published or updated in Chemical Abstracts after December 26, 1996), unless otherwise indicated in the original publications. The CA Lexicon is the copyrighted intellectual property of the American Chemical Society and is provided to assist you in searching databases on STN. Any dissemination, distribution, copying, or storing of this information, without the prior written consent of CAS, is strictly prohibited.

FILE COVERS 1907 - 8 Aug 2007 VOL 147 ISS 7

FILE LAST UPDATED: 7 Aug 2007 (20070807/ED)

Effective October 17, 2005, revised CAS Information Use Policies apply. They are available for your review at:

<http://www.cas.org/infopolicy.html>

=> s 13/spn and 15

10270 L3

1915776 SPN/RL

620 L3/SPN

(L3 (L) SPN/RL)

1342 L5  
L6 48 L3/SPN AND L5

=> d scan 16

L6 48 ANSWERS CAPLUS COPYRIGHT 2007 ACS on STN  
CC 23-3 (Aliphatic Compounds)  
TI An efficient method for chlorination of alcohols using PPh<sub>3</sub>/Cl<sub>3</sub>CCONH<sub>2</sub>  
ST alc alkyl chlorination chloroacetamide triphenylphosphine reagent; alkyl  
chloride prepn  
IT Alcohols, reactions  
RL: RCT (Reactant); RACT (Reactant or reagent)  
(aliphatic; chlorination of alcs. into alkyl chlorides using  
triphenylphosphine/trichloroacetamide reagent system)  
IT Chlorination  
(chlorination of alcs. into alkyl chlorides using  
triphenylphosphine/trichloroacetamide reagent system)  
IT Alkyl chlorides  
RL: SPN (Synthetic preparation); PREP (Preparation)  
(chlorination of alcs. into alkyl chlorides using  
triphenylphosphine/trichloroacetamide reagent system)  
IT Reaction mechanism  
(proposed mechanism of chlorination of alcs. into alkyl chlorides using  
triphenylphosphine/trichloroacetamide reagent system)  
IT Chlorination  
(stereoselective; proposed mechanism of chlorination of alcs. into  
alkyl chlorides using triphenylphosphine/trichloroacetamide reagent  
system)  
IT 60-12-8, 2-Phenylethanol 98-52-2, 4-tert-Butylcyclohexanol 111-87-5,  
1-Octanol, reactions 112-53-8, 1-Dodecanol 112-92-5, 1-Octadecanol  
122-97-4, 3-Phenyl-1-propanol 123-96-6, 2-Octanol 594-65-0,  
Trichloroacetamide 599-67-7, 1,1-Diphenylethanol 617-94-7,  
2-Phenyl-2-propanol 696-71-9, Cyclooctanol 700-57-2, 2-Adamantanol  
768-95-6, 1-Adamantanol 1724-39-6, Cyclododecanol 5978-70-1  
13491-79-7, 2-tert-Butylcyclohexanol  
RL: RCT (Reactant); RACT (Reactant or reagent)  
(chlorination of alcs. into alkyl chlorides using  
triphenylphosphine/trichloroacetamide chlorinating reagent system)  
IT 603-35-0, Triphenylphosphine, reactions  
RL: RGT (Reagent); RACT (Reactant or reagent)  
(chlorination of alcs. into alkyl chlorides using  
triphenylphosphine/trichloroacetamide chlorinating reagent system)  
IT 98-83-9P, 2-Phenyl-2-propene, preparation 104-52-9P,  
3-Phenyl-1-chloropropane 111-85-3P, 1-Chlorooctane 112-52-7P,  
1-Chlorododecane 530-48-3P, 1,1-Diphenylethylene 622-24-2P,  
2-Phenyl-1-chloroethane 628-61-5P, 2-Chlorooctane 931-88-4P,  
Cyclooctene 934-53-2P 935-56-8P, 1-Chloroadamantane 947-40-0P  
1501-82-2P, Cyclododecene 1556-08-7P, Chlorocyclooctane 2228-98-0P,  
4-tert-Butylcyclohexene 3386-33-2P, 1-Chlorooctadecane 7346-41-0P,  
2-Chloroadamantane 16844-08-9P 34039-83-3P, Chlorocyclododecane  
62056-46-6P 872288-12-5P 911832-47-8P  
RL: SPN (Synthetic preparation); PREP (Preparation)  
(chlorination of alcs. into alkyl chlorides using  
triphenylphosphine/trichloroacetamide chlorinating reagent system)

=> s 16 and dehydration  
101736 DEHYDRATION  
434 DEHYDRATIONS  
101847 DEHYDRATION  
(DEHYDRATION OR DEHYDRATIONS)  
L7 19 L6 AND DEHYDRATION

=> d 17 1-19 abs ibib

L7 ANSWER 1 OF 19 CAPLUS COPYRIGHT 2007 ACS on STN  
 AB  $\alpha$ -Alkyl- and  $\alpha,\alpha'$ -dialkyl-substituted benzylic alcs. PhCR<sub>1</sub>R<sub>2</sub>OH (R<sub>1</sub> = H, Me, Et, n-Bu; R<sub>2</sub> = H, Me) are transformed to the corresponding dibenzylic ethers and water in acid-free neat substrate media shortly after the addition of the palladium(I) cluster [Pd<sub>4</sub>(CO)<sub>4</sub>(OAc)<sub>4</sub>] (I). During the catalytic reaction occurring under anaerobic conditions, cluster I is gradually decomposed to form Pd black, whereas neither original cluster I nor Pd black is responsible for the observed reaction. The true reaction catalyst is generated from cluster I after a short induction period. On the basis of the reaction kinetics and the HREM, X-ray diffraction, DTA-TG, and elemental anal. data, the catalytic dehydration is suggested to occur through a nonradical chain mechanism involving an unstable intermediate Pd cluster as the chain carrier.

ACCESSION NUMBER: 2006:30085 CAPLUS  
 DOCUMENT NUMBER: 146:81587  
 TITLE: A chain catalytic reaction involving Pd cluster as chain carrier  
 AUTHOR(S): Stolarov, Igor P.; Dobrokhotova, Zhanna V.; Kryukova, Galina N.; Gekhman, Alexander E.; Vargaftik, Michael N.  
 CORPORATE SOURCE: N. S. Kurnakov Institute of General and Inorganic Chemistry, Russian Academy of Sciences, Moscow, 119991, Russia  
 SOURCE: Journal of Cluster Science (2005), 16(3), 367-378  
 CODEN: JCSCEB; ISSN: 1040-7278  
 PUBLISHER: Springer  
 DOCUMENT TYPE: Journal  
 LANGUAGE: English  
 OTHER SOURCE(S): CASREACT 146:81587  
 REFERENCE COUNT: 16 THERE ARE 16 CITED REFERENCES AVAILABLE FOR THIS RECORD. ALL CITATIONS AVAILABLE IN THE RE FORMAT

L7 ANSWER 2 OF 19 CAPLUS COPYRIGHT 2007 ACS on STN  
 AB An unusual for Pd catalysts dehydration of  $\alpha$ -alkyl- and  $\alpha,\alpha'$ -dialkylbenzyl alcs. PhCR'R''OH (R' = H, Me, Et, Bu; R'' = H, Me) occurs in the presence of the palladium(I) cluster [Pd<sub>4</sub>(CO)<sub>4</sub>(OAc)<sub>4</sub>] (I) in an inert atmospheric to form ethers PhCR'R''-O-CR'R''Ph and water. The catalyst is an intermediate of cluster I reduction to Pd black, while neither the starting cluster I, nor Pd black, which is the decomposition product, are active in the catalysis of this reaction.

ACCESSION NUMBER: 2005:1010035 CAPLUS  
 DOCUMENT NUMBER: 144:488360  
 TITLE: Unusual case of catalysis by palladium clusters  
 AUTHOR(S): Stolarov, I. P.; Dobrokhotova, Zh. V.; Kryukova, G. N.; Kozitsyna, N. Yu.; Gekhman, A. E.; Vargaftik, M. N.; Moiseev, I. I.  
 CORPORATE SOURCE: N. S. Kurnakov Institute of General and Inorganic Chemistry, Russian Academy of Sciences, Moscow, 119991, Russia  
 SOURCE: Russian Chemical Bulletin (2005), 54(3), 803-806  
 CODEN: RCBUEY; ISSN: 1066-5285  
 PUBLISHER: Springer Science+Business Media, Inc.  
 DOCUMENT TYPE: Journal  
 LANGUAGE: English  
 OTHER SOURCE(S): CASREACT 144:488360  
 REFERENCE COUNT: 17 THERE ARE 17 CITED REFERENCES AVAILABLE FOR THIS RECORD. ALL CITATIONS AVAILABLE IN THE RE FORMAT

L7 ANSWER 3 OF 19 CAPLUS COPYRIGHT 2007 ACS on STN  
 AB An efficient method has been achieved for the dehydration of tertiary alcs. using the combination of methanesulfonic anhydride and triethylamine as dehydration agent to obtain olefin in high yield. The short reaction time, mild basic conditions and high yield make it a facile way for the synthesis of olefins from tertiary alcs.

ACCESSION NUMBER: 2005:554170 CAPLUS  
 DOCUMENT NUMBER: 144:311758  
 TITLE: Convenient synthesis of olefins from tertiary alcohols under mild basic condition  
 AUTHOR(S): Li, Xin-Sheng; Ge, Jian-Feng; Hu, Xiao-Chun  
 CORPORATE SOURCE: Department of Chemistry and Biology, Zhejiang Normal University, Jinhua, 321004, Peop. Rep. China  
 SOURCE: Youji Huaxue (2005), 25(6), 727-729  
 CODEN: YCHHDX; ISSN: 0253-2786  
 PUBLISHER: Youji Huaxue Bianjibu  
 DOCUMENT TYPE: Journal  
 LANGUAGE: Chinese  
 OTHER SOURCE(S): CASREACT 144:311758

L7 ANSWER 4 OF 19 CAPLUS COPYRIGHT 2007 ACS on STN

AB This invention pertains to a method for producing cumene which comprises a step in which cumene hydroperoxide contained in cumyl alc. is converted to cumyl alc. in the presence of a hydrogenation catalyst and a step in which the cumyl alc. is converted to cumene. The catalyst is Pd, Pt, Ni, Co, Rh, or Ru.

ACCESSION NUMBER: 2005:300376 CAPLUS  
 DOCUMENT NUMBER: 142:355031  
 TITLE: Process for preparation of cumene  
 INVENTOR(S): Yamamoto, Jun; Suzuki, Tetsuo  
 PATENT ASSIGNEE(S): Sumitomo Chemical Company, Limited, Japan  
 SOURCE: PCT Int. Appl., 12 pp.  
 CODEN: PIXXD2  
 DOCUMENT TYPE: Patent  
 LANGUAGE: Japanese  
 FAMILY ACC. NUM. COUNT: 1  
 PATENT INFORMATION:

PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
WO 2005030682	A1	20050407	WO 2004-JP13583	20040910
W: AE, AG, AL, AM, AT, AU, AZ, BA, BB, BG, BR, BW, BY, BZ, CA, CH, CN, CO, CR, CU, CZ, DE, DK, DM, DZ, EC, EE, EG, ES, FI, GB, GD, GE, GH, GM, HR, HU, ID, IL, IN, IS, KE, KG, KP, KR, KZ, LC, LK, LR, LS, LT, LU, LV, MA, MD, MG, MK, MN, MW, MX, MZ, NA, NI, NO, NZ, OM, PG, PH, PL, PT, RO, RU, SC, SD, SE, SG, SK, SL, SY, TJ, TM, TN, TR, TT, TZ, UA, UG, US, UZ, VC, VN, YU, ZA, ZM, ZW RW: BW, GH, GM, KE, LS, MW, MZ, NA, SD, SL, SZ, TZ, UG, ZM, ZW, AM, AZ, BY, KG, KZ, MD, RU, TJ, TM, AT, BE, BG, CH, CY, CZ, DE, DK, EE, ES, FI, FR, GB, GR, HU, IE, IT, LU, MC, NL, PL, PT, RO, SE, SI, SK, TR, BF, BJ, CF, CG, CI, CM, GA, GN, GQ, GW, ML, MR, NE, SN, TD, TG				
JP 2005097188	A	20050414	JP 2003-333160	20030925
PRIORITY APPLN. INFO.:			JP 2003-333160	A 20030925
OTHER SOURCE(S):		CASREACT 142:355031		
REFERENCE COUNT:		4 THERE ARE 4 CITED REFERENCES AVAILABLE FOR THIS RECORD. ALL CITATIONS AVAILABLE IN THE RE FORMAT		

L7 ANSWER 5 OF 19 CAPLUS COPYRIGHT 2007 ACS on STN

AB This invention pertains to a method for producing cumene from cumyl alc. and hydrogen with a dehydration catalyst and a hydrogenation catalyst, characterized in that the dehydration catalyst and the hydrogenation catalyst have been alternately packed in a reactor. This invention provides a convenient method to prepare cumene at low cost.

ACCESSION NUMBER: 2005:283444 CAPLUS  
 DOCUMENT NUMBER: 142:355029  
 TITLE: Process for preparation of cumene  
 INVENTOR(S): Yamamoto, Jun; Katao, Masaaki  
 PATENT ASSIGNEE(S): Sumitomo Chemical Company, Limited, Japan  
 SOURCE: PCT Int. Appl., 14 pp.  
 CODEN: PIXXD2

DOCUMENT TYPE: Patent  
LANGUAGE: Japanese  
FAMILY ACC. NUM. COUNT: 1  
PATENT INFORMATION:

PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
WO 2005028405	A1	20050331	WO 2004-JP13587	20040910
W:	AE, AG, AL, AM, AT, AU, AZ, BA, BB, BG, BR, BW, BY, BZ, CA, CH, CN, CO, CR, CU, CZ, DE, DK, DM, DZ, EC, EE, EG, ES, FI, GB, GD, GE, GH, GM, HR, HU, ID, IL, IN, IS, KE, KG, KP, KR, KZ, LC, LK, LR, LS, LT, LU, LV, MA, MD, MG, MK, MN, MW, MX, MZ, NA, NI, NO, NZ, OM, PG, PH, PL, PT, RO, RU, SC, SD, SE, SG, SK, SL, SY, TJ, TM, TN, TR, TT, TZ, UA, UG, US, UZ, VC, VN, YU, ZA, ZM, ZW			
RW:	BW, GH, GM, KE, LS, MW, MZ, NA, SD, SL, SZ, TZ, UG, ZM, ZW, AM, AZ, BY, KG, KZ, MD, RU, TJ, TM, AT, BE, BG, CH, CY, CZ, DE, DK, EE, ES, FI, FR, GB, GR, HU, IE, IT, LU, MC, NL, PL, PT, RO, SE, SI, SK, TR, BF, BJ, CF, CG, CI, CM, GA, GN, GQ, GW, ML, MR, NE, SN, TD, TG			
JP 2005089380	A	20050407	JP 2003-325742	20030918
JP 2005089381	A	20050407	JP 2003-325743	20030918
EP 1666442	A1	20060607	EP 2004-773231	20040910
R:	AT, BE, CH, DE, DK, ES, FR, GB, GR, IT, LI, LU, NL, SE, MC, PT, IE, SI, FI, RO, CY, TR, BG, CZ, EE, HU, PL, SK			
CN 1852879	A	20061025	CN 2004-80026940	20040910
US 2006258892	A1	20061116	US 2006-571471	20060313
PRIORITY APPLN. INFO.:			JP 2003-325742	A 20030918
			JP 2003-325743	A 20030918
			WO 2004-JP13587	W 20040910
OTHER SOURCE(S):	CASREACT 142:355029			
REFERENCE COUNT:	3	THERE ARE 3 CITED REFERENCES AVAILABLE FOR THIS RECORD. ALL CITATIONS AVAILABLE IN THE RE FORMAT		

L7 ANSWER 6 OF 19 CAPLUS COPYRIGHT 2007 ACS on STN

AB This invention pertains to a method by which an aromatic compound having a side chain having a double bond is selectively hydrogenated only at the double bond of the side chain, which comprises using at least two hydrogenation catalysts and bringing a feed material comprising the aromatic compound having a side chain having a double bond into contact first with a highly active catalyst and subsequently with a highly selective catalyst. For example,  $\alpha$ -methylstyrene was selectively hydrogenated in the presence of Pd/C and Cu-Cr<sub>2</sub>O<sub>3</sub> to give cumene with no isopropylcyclohexane production This invention provides an effective method for chemoselective hydrogenation of an aromatic compound having a side chain having a double bond.

ACCESSION NUMBER: 2004:589517 CAPLUS  
DOCUMENT NUMBER: 141:140168  
TITLE: Process for preparation of cumene by hydrogenation of  $\alpha$ -methylstyrene  
INVENTOR(S): Suzuki, Tetsuo; Ishino, Masaru; Shiraishi, Shigenori; Katao, Masaaki  
PATENT ASSIGNEE(S): Sumitomo Chemical Company, Limited, Japan  
SOURCE: PCT Int. Appl., 16 pp.  
CODEN: PIXXD2  
DOCUMENT TYPE: Patent  
LANGUAGE: Japanese  
FAMILY ACC. NUM. COUNT: 1  
PATENT INFORMATION:

PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
WO 2004060838	A1	20040722	WO 2003-JP16435	20031222
W:	AE, AG, AL, AM, AT, AU, AZ, BA, BB, BG, BR, BW, BY, BZ, CA, CH, CN, CO, CR, CU, CZ, DE, DK, DM, DZ, EC, EE, EG, ES, FI, GB, GD, GE, GH, GM, HR, HU, ID, IL, IN, IS, KE, KG, KR, KZ, LC, LK, LR, LS, LT, LU, LV, MA, MD, MG, MK, MN, MW, MX, MZ, NI, NO, NZ, OM,			



PG, PH, PL, PT, RO, RU, SC, SD, SE, SG, SK, SL, SY, TJ, TM, TN,  
 TR, TT, TZ, UA, UG, US, UZ, VC, VN, YU, ZA, ZM, ZW  
 RW: BW, GH, GM, KE, LS, MW, MZ, SD, SL, SZ, TZ, UG, ZM, ZW, AM, AZ,  
 BY, KG, KZ, MD, RU, TJ, TM, AT, BE, BG, CH, CY, CZ, DE, DK, EE,  
 ES, FI, FR, GB, GR, HU, IE, IT, LU, MC, NL, PT, RO, SE, SI, SK,  
 TR, BF, BJ, CF, CG, CI, CM, GA, GN, GQ, GW, ML, MR, NE, SN, TD, TG

JP 2004262912	A	20040924	JP 2003-197751	20030716
JP 2004269504	A	20040930	JP 2003-404226	20031203
JP 2004269505	A	20040930	JP 2003-404227	20031203
AU 2003292602	A1	20040729	AU 2003-292602	20031222
PRIORITY APPLN. INFO.:			JP 2003-893	A 20030107
			JP 2003-40760	A 20030219
			JP 2003-40761	A 20030219
			JP 2003-197751	A 20030716
			WO 2003-JP16435	W 20031222

OTHER SOURCE(S): CASREACT 141:140168

L7 ANSWER 7 OF 19 CAPLUS COPYRIGHT 2007 ACS on STN

AB Silica chloride (SiO<sub>2</sub>-Cl), as a heterogeneous reagent, was used for the efficient dehydration of tertiary alcs. under mild reaction conditions. For comparison, the authors have also used trimethylsilyl chloride (TMSCl) as a homogeneous reagent for this purpose. The authors have found that silica chloride is a more efficient reagent than trimethylsilyl chloride for this purpose. Handling of SiO<sub>2</sub>-Cl is much safer and easier than TMSCl, especially for large-scale operation. The selectivity of the method is also demonstrated by several competitive reactions. Ether formation, rearranged products, and polymerization have not been observed in the reactions.

ACCESSION NUMBER: 2003:814440 CAPLUS  
 DOCUMENT NUMBER: 140:93456  
 TITLE: Silica chloride (SiO<sub>2</sub>-Cl) and trimethylsilyl chloride (TMSCl) promote facile and efficient dehydration of tertiary alcohols  
 AUTHOR(S): Firouzabadi, Habib; Iranpoor, Naser; Hazarkhani, Hassan; Karimi, Babak  
 CORPORATE SOURCE: School of Sciences, Chemistry Department, Shiraz University, Shiraz, Iran  
 SOURCE: Synthetic Communications (2003), 33(21), 3653-3660  
 CODEN: SYNCAV; ISSN: 0039-7911  
 PUBLISHER: Marcel Dekker, Inc.  
 DOCUMENT TYPE: Journal  
 LANGUAGE: English  
 OTHER SOURCE(S): CASREACT 140:93456  
 REFERENCE COUNT: 29 THERE ARE 29 CITED REFERENCES AVAILABLE FOR THIS RECORD. ALL CITATIONS AVAILABLE IN THE RE FORMAT

L7 ANSWER 8 OF 19 CAPLUS COPYRIGHT 2007 ACS on STN

AB A Dean-Stark apparatus, with the separation chamber modified to contain mol. sieves

for scavenging water from an azeotrope, is described. This modification permits the efficient dehydration of an azeotrope, thereby greatly reducing the chance of water recycling to a reaction flask. The extent of water removal from recycling solvent was determined by Karl Fischer titration. Depending on the type of mol. sieve used, the pH of the water eluted at saturation ranged from 7.8 to 10.4. To demonstrate the effectiveness for removing water from recycling solvent and providing anhydrous reaction conditions, the apparatus was used to determine the water-loading capacity of a variety of mol. sieves and to effect the dehydration /cyclodimerization of 2-phenyl-2-propanol to 2,3-dihydro-1,1,3-trimethyl-3-phenyl-1H-indene, via  $\alpha$ -methylstyrene.

ACCESSION NUMBER: 1999:641759 CAPLUS  
 DOCUMENT NUMBER: 132:3158  
 TITLE: Dean-Stark Apparatus Modified for Use with Molecular Sieves in dehydration/cyclodimerization of 2-phenyl-2-propanol

AUTHOR(S): Eisenbraun, Edmund J.; Payne, Kirk W.  
 CORPORATE SOURCE: Department of Chemistry, Oklahoma State University,  
 Stillwater, OK, 74078, USA  
 SOURCE: Industrial & Engineering Chemistry Research (1999),  
 38(12), 4521-4524  
 CODEN: IECRED; ISSN: 0888-5885  
 PUBLISHER: American Chemical Society  
 DOCUMENT TYPE: Journal  
 LANGUAGE: English  
 REFERENCE COUNT: 16 THERE ARE 16 CITED REFERENCES AVAILABLE FOR THIS  
 RECORD. ALL CITATIONS AVAILABLE IN THE RE FORMAT

L7 ANSWER 9 OF 19 CAPLUS COPYRIGHT 2007 ACS on STN  
 AB  $\alpha$ -Methylstyrenes are manufactured with good yield with no significant  
 byproduct formation by dehydration of dimethylphenylcarbinols  
 RMe<sub>2</sub>OH (I; R = Ph optionally substituted with  $\geq 1$  of C1-6 alkoxy,  
 C1-6 thioalkyl, cyano, di(C1-2 alkyl)amino, NO<sub>2</sub>, halo, etc.) using an acid  
 salt having pK<sub>a</sub>  $\leq 5$ , specifically NaHSO<sub>4</sub>. If I are impure and  
 contain cumene hydroperoxide the latter can be reduced with Na<sub>2</sub>SO<sub>3</sub> before  
 contacting I with the acid salt. Thus, adding 300 g of 30% solution of  
 4-fluorocumene hydroperoxide in 4-fluorocumene over 104 min to a solution of  
 86.7 g Na<sub>2</sub>SO<sub>3</sub> in 347 g H<sub>2</sub>O at 101-104° and stirring the whole for  
 74 min. at 98-104° gave 78.8 g of 98.5% pure 4-FC<sub>6</sub>H<sub>4</sub>CMe<sub>2</sub>OH. This  
 (70 g) was refluxed for 45 min with 0.7 g NaHSO<sub>4</sub> in 80 g PhMe with  
 azeotropic removal of H<sub>2</sub>O to give 60.9 g of 98.9% pure 4-FC<sub>6</sub>H<sub>4</sub>CMe:CH<sub>2</sub>.

ACCESSION NUMBER: 1998:424203 CAPLUS  
 DOCUMENT NUMBER: 129:95818  
 TITLE: Manufacture of  $\alpha$ -methylstyrenes from  
 $\alpha,\alpha$ -dimethylphenylcarbinols  
 INVENTOR(S): Mathew, Chempolil Thomas; Boyle, William Johnston;  
 Qian, Zhenrong  
 PATENT ASSIGNEE(S): AlliedSignal Inc., USA  
 SOURCE: PCT Int. Appl., 16 pp.  
 CODEN: PIXXD2  
 DOCUMENT TYPE: Patent  
 LANGUAGE: English  
 FAMILY ACC. NUM. COUNT: 1  
 PATENT INFORMATION:

PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
WO 9827030	A1	19980625	WO 1997-US22752	19971210
W: AL, AU, BA, BB, BG, BR, CA, CN, CU, CZ, EE, GE, GH, HU, ID, IL, IS, JP, KP, KR, LK, LR, LS, LT, LV, MG, MK, MN, MW, MX, NZ, PL, RO, RU, SD, SG, SI, SK, SL, TR, TT, UA, UZ, VN, YU, ZW, AM, AZ, BY, KG, KZ, MD, RU, TJ, TM				
RW: GH, GM, KE, LS, MW, SD, SZ, UG, ZW, AT, BE, CH, DE, DK, ES, FI, FR, GB, GR, IE, IT, LU, MC, NL, PT, SE, BF, BJ, CF, CG, CI, CM, GA, GN, ML, MR, NE, SN, TD, TG				
AU 9857959	A	19980715	AU 1998-57959	19971210
PRIORITY APPLN. INFO.:			US 1996-767658	A 19961217
			WO 1997-US22752	W 19971210

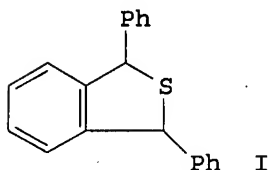
OTHER SOURCE(S): MARPAT 129:95818  
 REFERENCE COUNT: 1 THERE ARE 1 CITED REFERENCES AVAILABLE FOR THIS  
 RECORD. ALL CITATIONS AVAILABLE IN THE RE FORMAT

L7 ANSWER 10 OF 19 CAPLUS COPYRIGHT 2007 ACS on STN  
 AB Methylrhenum trioxide (MTO) is the first transition metal complex in  
 trace quantity to catalyze the direct formation of ethers from alcs. The  
 reactions are independent of the solvents used: benzene, toluene,  
 dichloromethane, chloroform, acetone, and in the alcs. themselves. Aromatic  
 alcs. gave better yields than aliphatic alcs. Reactions between two  
 different alcs. could also be used to prepare unsym. ethers, the best yields  
 being obtained when one of the alcs. is aromatic MTO also catalyzes the  
 dehydration of alcs. to form olefins at room temperature, aromatic alcs.

proceeding in better yield. When primary (secondary) amines were used as the limiting reagent, direct amination of alcs. catalyzed by MTO gave good yields of the expected secondary (tertiary) amines at room temperature. Disproportionation of alcs. to alkanes and carbonyl compds. was also observed for aromatic alcs. in the presence of MTO. On the basis of the results of this investigation and a comparison with the interaction between MTO and water, a concerted process and a mechanism involving carbocation intermediates have been suggested.

ACCESSION NUMBER: 1995:1000251 CAPLUS  
DOCUMENT NUMBER: 124:174956  
TITLE: Organic Reactions Catalyzed by Methylrhenium Trioxide: Dehydration, Amination, and Disproportionation of Alcohols  
AUTHOR(S): Zhu, Zuolin; Espenson, James H.  
CORPORATE SOURCE: Ames Laboratory and Department of Chemistry, Iowa State University, Ames, IA, 50011, USA  
SOURCE: Journal of Organic Chemistry (1996), 61(1), 324-8  
CODEN: JOCEAH; ISSN: 0022-3263  
PUBLISHER: American Chemical Society  
DOCUMENT TYPE: Journal  
LANGUAGE: English  
OTHER SOURCE(S): CASREACT 124:174956

L7 ANSWER 11 OF 19 CAPLUS COPYRIGHT 2007 ACS on STN  
GI



AB A simple one-pot reaction between alcs. and Lawesson's reagent (LR) affords the corresponding thiols, accompanied by dehydration products, alkenes. Treatment of acyclic 1,4-diols with LR gives the 1,3-dienes. O-(Dihydroxymethyl)benzene derivs. yield the 1,3-dihydrobenzo[c]thiophenes when treated with LR. Thus, Ph<sub>3</sub>COH was treated with LR in MeOCH<sub>2</sub>CH<sub>2</sub>OMe to give Ph<sub>3</sub>CSH quant., however, similar treatment of 1,2-(HOCHPh)<sub>2</sub>C<sub>6</sub>H<sub>4</sub> with LR in refluxing PhMe gave 49% diphenylbenzothiophene I.

ACCESSION NUMBER: 1993:670941 CAPLUS  
DOCUMENT NUMBER: 119:270941  
TITLE: Direct conversion of alcohols into thiols  
AUTHOR(S): Nishio, Takehiko  
CORPORATE SOURCE: Dep. Chem., Univ. Tsukuba, Tsukuba, 305, Japan  
SOURCE: Journal of the Chemical Society, Perkin Transactions 1: Organic and Bio-Organic Chemistry (1972-1999) (1993), (10), 1113-17  
CODEN: JCPRB4; ISSN: 0300-922X  
DOCUMENT TYPE: Journal  
LANGUAGE: English  
OTHER SOURCE(S): CASREACT 119:270941

L7 ANSWER 12 OF 19 CAPLUS COPYRIGHT 2007 ACS on STN

AB Treating alcs. with ferric sulfate hydrate gave 70-97% alkenes. E.g., 2-methyl-2-butanol gave 75% 2-methyl-1-butene and 2-methyl-2-butene.

ACCESSION NUMBER: 1989:457010 CAPLUS  
DOCUMENT NUMBER: 111:57010  
TITLE: Alkene formation by dehydration of alcohols catalyzed by ferric sulfate hydrate  
AUTHOR(S): Zhang, Jingwen; Xu, Zhiluo; Huang, Huamin; Liu, Fuan;

CORPORATE SOURCE: Zhu, Shaoxian  
 SOURCE: Dep. Chem., Jilin Univ., Changchun, Peop. Rep. China  
 Jilin Daxue Ziran Kexue Xuebao (1988), (4), 83-6  
 CODEN: CLTTDI; ISSN: 0529-0279  
 DOCUMENT TYPE: Journal  
 LANGUAGE: Chinese  
 OTHER SOURCE(S): CASREACT 111:57010

L7 ANSWER 13 OF 19 CAPLUS COPYRIGHT 2007 ACS on STN  
 AB PhCR:CH<sub>2</sub> (I; R = H, alkyl) were prepared by dehydration of  
 PhCR(OH)Me (II) in the presence of porous sulfonic acid-type cation  
 exchangers having sp. surface of ≥40 m<sup>2</sup>/g. Thus, 100 g II (R = Me)  
 was stirred with 12 g Diaion HPK 55H at 70° for 3 h to give I (R =  
 Me) in 97.0% selectivity and 93.5% conversion.

ACCESSION NUMBER: 1988:492446 CAPLUS  
 DOCUMENT NUMBER: 109:92446  
 TITLE: Dehydration of methylphenylcarbinols  
 INVENTOR(S): Nakanishi, Takehisa; Arashiba, Nobumasa; Miura,  
 Toshisumi  
 PATENT ASSIGNEE(S): Mitsui Toatsu Chemicals, Inc., Japan  
 SOURCE: Jpn. Kokai Tokkyo Koho, 6  
 CODEN: JKXXAF  
 DOCUMENT TYPE: Patent  
 LANGUAGE: Japanese  
 FAMILY ACC. NUM. COUNT: 1  
 PATENT INFORMATION:

PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
JP 63017833	A	19880125	JP 1986-162012	19860711
PRIORITY APPLN. INFO.:			JP 1986-162012	19860711
OTHER SOURCE(S):	MARPAT 109:92446			

L7 ANSWER 14 OF 19 CAPLUS COPYRIGHT 2007 ACS on STN  
 AB Title compds. were prepared by dehydration of 100 parts  
 alkylphenylcarbinols in the presence of 0.008-0.15 part concentrated H<sub>2</sub>SO<sub>4</sub> in  
 high conversion and selectivity and without precipitation and deterioration of  
 catalyst. Thus, 100 g solution containing 30% PhCMe<sub>2</sub>OH (I) in cumene was  
 treated  
 with 0.0068 g (0.022 part per 100 parts I) 98% H<sub>2</sub>SO<sub>4</sub> at 130° for 30  
 min to give PhCMe:CH<sub>2</sub> at 98.2% conversion and 99.3% selectivity.

ACCESSION NUMBER: 1988:94204 CAPLUS  
 DOCUMENT NUMBER: 108:94204  
 TITLE: α-Alkylstyrenes  
 INVENTOR(S): Shoji, Yoshiro; Kato, Tetsuo  
 PATENT ASSIGNEE(S): Mitsui Petrochemical Industries, Ltd., Japan  
 SOURCE: Jpn. Kokai Tokkyo Koho, 6 pp.  
 CODEN: JKXXAF  
 DOCUMENT TYPE: Patent  
 LANGUAGE: Japanese  
 FAMILY ACC. NUM. COUNT: 1  
 PATENT INFORMATION:

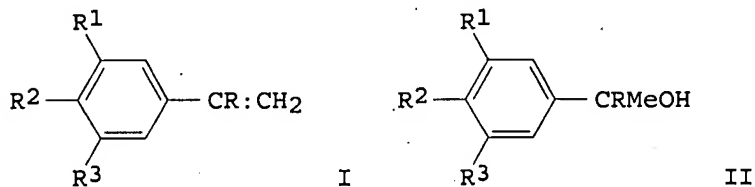
PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
JP 62164637	A	19870721	JP 1986-5278	19860114
PRIORITY APPLN. INFO.:			JP 1986-5278	19860114

L7 ANSWER 15 OF 19 CAPLUS COPYRIGHT 2007 ACS on STN  
 AB RC<sub>6</sub>H<sub>4</sub>CMeR<sub>1</sub>OH (I, R, R<sub>1</sub> = H, alkyl) were dehydrated to RC<sub>6</sub>H<sub>4</sub>C(:CH<sub>2</sub>)R<sub>1</sub> (II)  
 at 0-120° in the presence of strong acidic cation exchange resins.  
 Thus, 140 g 25.9 weight % I (R = H, R<sub>1</sub> = Me) (III) in cumene was treated with  
 35 g Amberlyst-15 at 50° for 2 h to give II (R = H, R<sub>1</sub> = Me) with  
 98.3% selectivity and with 95.8% conversion for III.  
 ACCESSION NUMBER: 1984:530378 CAPLUS

DOCUMENT NUMBER: 101:130378  
 TITLE: Dehydration of methylphenylcarbinols  
 PATENT ASSIGNEE(S): Mitsui Toatsu Chemicals, Inc., Japan  
 SOURCE: Jpn. Kokai Tokkyo Koho, 4 pp.  
 CODEN: JKXXAF  
 DOCUMENT TYPE: Patent  
 LANGUAGE: Japanese  
 FAMILY ACC. NUM. COUNT: 1  
 PATENT INFORMATION:

PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
JP 59067231	A	19840416	JP 1982-176079	19821008
JP 05002658	B	19930113		
PRIORITY APPLN. INFO.:			JP 1982-176079	19821008

L7 ANSWER 16 OF 19 CAPLUS COPYRIGHT 2007 ACS on STN  
 GI



AB Styrenes I (R, R1, R3 = H, Me; R2 = H, Me, CMe3, OMe, etc.) were prepared by liquid phase dehydration of II in the presence of organic sulfonic acids or their esters at 180-240°/ <650 mm Hg. Thus, II (R = Me, R1-R3 = H) (III) was fed (200 g/h) to 1 g p-MeC6H4SO3H (IV) and CH2Ph2 at 220°/560 mm Hg, while the resulting I (R = Me, R1-R3 = H) (V) and H2O were collected by azeotropic distillation, heavy by-products were optionally drawn, and IV was added to keep the amount const, to give V with 99.6% conversion of III, 98.7% selectivity for V and 1.3 and 0.03 selectivity of heavy by-products and ethylbenzenes, resp., compared compared with 96.3%, 94.8%, and 4.8 and 0.35 by dehydration with Al2O3 in place of IV at 270°/760 mm Hg. Dodecylbenzenesulfonic acid, PhSO3H, MeSO3H, p-MeC6H4SO3Me, etc. were also used in place of IV.

ACCESSION NUMBER: 1982:142420 CAPLUS  
 DOCUMENT NUMBER: 96:142420  
 TITLE: Styrenes by dehydration of substituted  $\alpha$ -methylbenzyl alcohols  
 PATENT ASSIGNEE(S): Sumitomo Chemical Co., Ltd., Japan  
 SOURCE: Jpn. Kokai Tokkyo Koho, 5 pp.  
 CODEN: JKXXAF  
 DOCUMENT TYPE: Patent  
 LANGUAGE: Japanese  
 FAMILY ACC. NUM. COUNT: 1  
 PATENT INFORMATION:

PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
JP 56145226	A	19811111	JP 1980-47633	19800410
PRIORITY APPLN. INFO.:			JP 1980-47633	A 19800410

L7 ANSWER 17 OF 19 CAPLUS COPYRIGHT 2007 ACS on STN

AB Mechanistic studies were performed at 180-210° with benzhydrol as substrate and RuCl2(PPh3)3 as catalyst. In aromatic hydrocarbon solvents the main process is reductive coupling. In this medium solvated RuCl2(PPh3)2 is suggested to be the active catalyst. In Me2SO the starting complex is

transformed initially into  $\text{RuCl}_2(\text{PPh}_3)(\text{Me}_2\text{SO})_2$  and causes chiefly carbinol dehydrogenation. Ruthenium alkoxides are implied as common reaction intermediates in all 4 catalyses. Ruthenium hydrides take part in the reductive coupling, disproportionation, and dehydrogenation processes. Some aliphatic and primary aromatic alcs. that do not react by themselves in the

presence of  $\text{RuCl}_2(\text{PPh}_3)_3$  can both serve as active H donors and form crossover products in the presence of secondary and tertiary aromatic carbinols.

ACCESSION NUMBER: 1980:603569 CAPLUS  
DOCUMENT NUMBER: 93:203569  
TITLE: Transformation of carbinols by dichlorotris(triphenylphosphine)ruthenium and by some other transition-metal catalysts  
AUTHOR(S): Pri-Bar, Ilan; Buchman, Ouri; Schumann, Hebert; Kröth, Heinz J.; Blum, Jochanan  
CORPORATE SOURCE: Nucl. Res. Cent., Israel At. Energy Comm., Negev, Israel  
SOURCE: Journal of Organic Chemistry (1980), 45(22), 4418-28  
CODEN: JOCEAH; ISSN: 0022-3263  
DOCUMENT TYPE: Journal  
LANGUAGE: English

L7 ANSWER 18 OF 19 CAPLUS COPYRIGHT 2007 ACS on STN

AB The partially-enriched monomers 2-phenylpropene-1- $^{13}\text{C}$  [58735-76-5], propylpropene-3- $^{13}\text{C}$  [58735-77-6], 2-(phenyl-1- $^{13}\text{C}$ )-propene [58735-78-7], 1,3-butadiene-1- $^{13}\text{C}$  [41839-36-5], 1,3-butadiene-2- $^{13}\text{C}$  [58735-79-8], methacrylonitrile-1- $^{13}\text{C}$  [58735-80-1], and methacrylonitrile-2- $^{13}\text{C}$  [37020-77-2] were prepared. The degree of enrichment was detd by  $^{13}\text{C}$  satellite ion the PMR and by comparison of the  $^{13}\text{C}$ -NMR of the enriched compds. with that of compds. with natural abundance.

ACCESSION NUMBER: 1976:136077 CAPLUS  
DOCUMENT NUMBER: 84:136077  
TITLE: Carbon-13-enriched monomers for NMR spectroscopy of polymers  
AUTHOR(S): Stuetzel, Bernhard; Ritter, Wolfgang; Elgert, Karl F.  
CORPORATE SOURCE: Inst. Makromol. Chem., Univ. Freiburg, Freiburg/Br., Fed. Rep. Ger.  
SOURCE: Angewandte Makromolekulare Chemie (1976), 50(1), 21-41  
CODEN: ANMCBO; ISSN: 0003-3146  
DOCUMENT TYPE: Journal  
LANGUAGE: German

L7 ANSWER 19 OF 19 CAPLUS COPYRIGHT 2007 ACS on STN

AB  $\text{Me}_2\text{CHC}(\text{OH})\text{MePh}$ ,  $\text{PhCMe}_2\text{OH}$ , and  $p\text{-BrC}_6\text{H}_4\text{CMe}_2\text{-OH}$  with  $\text{LiAlH}_4$  followed by  $\text{AlCl}_3$  underwent cis-elimination to give the anti-Saytzeff products  $\text{PhC}(:\text{CH}_2)\text{CHMe}_2$ ,  $\text{PhC}(:\text{CH}_2)\text{Me}$ , and  $p\text{-BrC}_6\text{H}_4\text{C}(:\text{CH}_2)\text{Me}$ , resp.  $\text{RCMe}(\text{OH})\text{CD}_3$  ( $\text{R} = \text{Ph}$ ,  $p\text{-BrC}_6\text{H}_4$ ) under the same conditions gave  $\text{RC}(:\text{CH}_2)\text{CD}_3$  and  $\text{RC}(:\text{CD}_2)\text{Me}$  in the ratios 19:6 and 18:7, resp.

ACCESSION NUMBER: 1972:500988 CAPLUS  
DOCUMENT NUMBER: 77:100988  
TITLE: Alkene formation via aluminum trichloride-induced elimination from benzyl alkoxides  
AUTHOR(S): Mead, T. J.; Cum, G.; Uccella, N.  
CORPORATE SOURCE: Univ. Chem. Lab., Univ. Camb., Cambridge, UK  
SOURCE: Journal of the Chemical Society, Chemical Communications (1972), (11), 679-80  
CODEN: JCCCAT; ISSN: 0022-4936  
DOCUMENT TYPE: Journal  
LANGUAGE: English

=> s 17 and alumina  
305040 ALUMINA  
2594 ALUMINAS

305318 ALUMINA  
(ALUMINA OR ALUMINAS)

L8 2 L7 AND ALUMINA

=> d l8 1-2 abs ibib hitstr

L8 ANSWER 1 OF 2 CAPLUS COPYRIGHT 2007 ACS on STN  
AB This invention pertains to a method for producing cumene from cumyl alc.  
and hydrogen with a dehydration catalyst and a hydrogenation  
catalyst, characterized in that the dehydration catalyst and the  
hydrogenation catalyst have been alternately packed in a reactor. This  
invention provides a convenient method to prepare cumene at low cost.

ACCESSION NUMBER: 2005:283444 CAPLUS  
DOCUMENT NUMBER: 142:355029  
TITLE: Process for preparation of cumene  
INVENTOR(S): Yamamoto, Jun; Katao, Masaaki  
PATENT ASSIGNEE(S): Sumitomo Chemical Company, Limited, Japan  
SOURCE: PCT Int. Appl., 14 pp.  
CODEN: PIXXD2  
DOCUMENT TYPE: Patent  
LANGUAGE: Japanese  
FAMILY ACC. NUM. COUNT: 1  
PATENT INFORMATION:

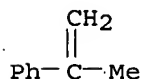
PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
WO 2005028405	A1	20050331	WO 2004-JP13587	20040910
W: AE, AG, AL, AM, AT, AU, AZ, BA, BB, BG, BR, BW, BY, BZ, CA, CH, CN, CO, CR, CU, CZ, DE, DK, DM, DZ, EC, EE, EG, ES, FI, GB, GD, GE, GH, GM, HR, HU, ID, IL, IN, IS, KE, KG, KP, KR, KZ, LC, LK, LR, LS, LT, LU, LV, MA, MD, MG, MK, MN, MW, MX, MZ, NA, NI, NO, NZ, OM, PG, PH, PL, PT, RO, RU, SC, SD, SE, SG, SK, SL, SY, TJ, TM, TN, TR, TT, TZ, UA, UG, US, UZ, VC, VN, YU, ZA, ZM, ZW				
RW: BW, GH, GM, KE, LS, MW, MZ, NA, SD, SL, SZ, TZ, UG, ZM, ZW, AM, AZ, BY, KG, KZ, MD, RU, TJ, TM, AT, BE, BG, CH, CY, CZ, DE, DK, EE, ES, FI, FR, GB, GR, HU, IE, IT, LU, MC, NL, PL, PT, RO, SE, SI, SK, TR, BF, BJ, CF, CG, CI, CM, GA, GN, GQ, GW, ML, MR, NE, SN, TD, TG				
JP 2005089380	A	20050407	JP 2003-325742	20030918
JP 2005089381	A	20050407	JP 2003-325743	20030918
EP 1666442	A1	20060607	EP 2004-773231	20040910
R: AT, BE, CH, DE, DK, ES, FR, GB, GR, IT, LI, LU, NL, SE, MC, PT, IE, SI, FI, RO, CY, TR, BG, CZ, EE, HU, PL, SK				
CN 1852879	A	20061025	CN 2004-80026940	20040910
US 2006258892	A1	20061116	US 2006-571471	20060313
PRIORITY APPLN. INFO.:			JP 2003-325742	A 20030918
			JP 2003-325743	A 20030918
			WO 2004-JP13587	W 20040910

OTHER SOURCE(S): CASREACT 142:355029

IT 98-83-9P, preparation  
RL: IMF (Industrial manufacture); RCT (Reactant); SPN (Synthetic preparation); PREP (Preparation); RACT (Reactant or reagent) (intermediate; preparation of cumene)

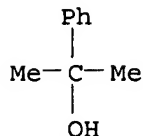
RN 98-83-9 CAPLUS

CN Benzene, (1-methylethenyl)- (CA INDEX NAME)



IT 617-94-7  
RL: RCT (Reactant); RACT (Reactant or reagent) (preparation of cumene)

RN 617-94-7 CAPLUS  
CN Benzenemethanol,  $\alpha,\alpha$ -dimethyl- (CA INDEX NAME)



REFERENCE COUNT: 3 THERE ARE 3 CITED REFERENCES AVAILABLE FOR THIS RECORD. ALL CITATIONS AVAILABLE IN THE RE FORMAT

L8 ANSWER 2 OF 2 CAPLUS COPYRIGHT 2007 ACS on STN

AB This invention pertains to a method by which an aromatic compound having a side chain having a double bond is selectively hydrogenated only at the double bond of the side chain, which comprises using at least two hydrogenation catalysts and bringing a feed material comprising the aromatic compound having a side chain having a double bond into contact first with a highly active catalyst and subsequently with a highly selective catalyst. For example,  $\alpha$ -methylstyrene was selectively hydrogenated in the presence of Pd/C and Cu-Cr<sub>2</sub>O<sub>3</sub> to give cumene with no isopropylcyclohexane production. This invention provides an effective method for chemoselective hydrogenation of an aromatic compound having a side chain having a double bond.

ACCESSION NUMBER: 2004:589517 CAPLUS

DOCUMENT NUMBER: 141:140168

TITLE: Process for preparation of cumene by hydrogenation of  $\alpha$ -methylstyrene

INVENTOR(S): Suzuki, Tetsuo; Ishino, Masaru; Shiraishi, Shigenori; Katao, Masaaki

PATENT ASSIGNEE(S): Sumitomo Chemical Company, Limited, Japan

SOURCE: PCT Int. Appl., 16 pp.

CODEN: PIXXD2

DOCUMENT TYPE: Patent

LANGUAGE: Japanese

FAMILY ACC. NUM. COUNT: 1

PATENT INFORMATION:

PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
WO 2004060838	A1	20040722	WO 2003-JP16435	20031222
W:	AE, AG, AL, AM, AT, AU, AZ, BA, BB, BG, BR, BW, BY, BZ, CA, CH, CN, CO, CR, CU, CZ, DE, DK, DM, DZ, EC, EE, EG, ES, FI, GB, GD, GE, GH, GM, HR, HU, ID, IL, IN, IS, KE, KG, KR, KZ, LC, LK, LR, LS, LT, LU, LV, MA, MD, MG, MK, MN, MW, MX, MZ, NI, NO, NZ, OM, PG, PH, PL, PT, RO, RU, SC, SD, SE, SG, SK, SL, SY, TJ, TM, TN, TR, TT, TZ, UA, UG, US, UZ, VC, VN, YU, ZA, ZM, ZW			
RW:	BW, GH, GM, KE, LS, MW, MZ, SD, SL, SZ, TZ, UG, ZM, ZW, AM, AZ, BY, KG, KZ, MD, RU, TJ, TM, AT, BE, BG, CH, CY, CZ, DE, DK, EE, ES, FI, FR, GB, GR, HU, IE, IT, LU, MC, NL, PT, RO, SE, SI, SK, TR, BF, BJ, CF, CG, CI, CM, GA, GN, GQ, GW, ML, MR, NE, SN, TD, TG			
JP 2004262912	A	20040924	JP 2003-197751	20030716
JP 2004269504	A	20040930	JP 2003-404226	20031203
JP 2004269505	A	20040930	JP 2003-404227	20031203
AU 2003292602	A1	20040729	AU 2003-292602	20031222
PRIORITY APPLN. INFO.:			JP 2003-893	A 20030107
			JP 2003-40760	A 20030219
			JP 2003-40761	A 20030219
			JP 2003-197751	A 20030716
			WO 2003-JP16435	W 20031222

OTHER SOURCE(S): CASREACT 141:140168

IT 98-83-9P,  $\alpha$ -Methylstyrene, preparation

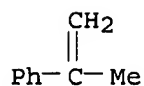
RL: IMF (Industrial manufacture); RCT (Reactant); SPN (Synthetic preparation); PREP (Preparation); RACT (Reactant or reagent)



(intermediate; preparation of cumene by hydrogenation of  
 $\alpha$ -methylstyrene)

RN 98-83-9 CAPLUS

CN Benzene, (1-methylethenyl)- (CA INDEX NAME)



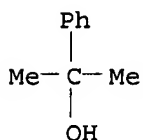
IT 617-94-7

RL: RCT (Reactant); RACT (Reactant or reagent)

(preparation of cumene by hydrogenation of  $\alpha$ -methylstyrene)

RN 617-94-7 CAPLUS

CN Benzenemethanol,  $\alpha$ , $\alpha$ -dimethyl- (CA INDEX NAME)



=> s l3/prep and l5

10270 L3

4443106 PREP/RL

1760 L3/PREP

(L3 (L) PREP/RL)

1342 L5

L9 153 L3/PREP AND L5

=> s l9 and alumina

305040 ALUMINA

2594 ALUMINAS

305318 ALUMINA

(ALUMINA OR ALUMINAS)

L10 11 L9 AND ALUMINA

=> d l10 1-11 abs ibib hitstr

L10 ANSWER 1 OF 11 CAPLUS COPYRIGHT 2007 ACS on STN

AB PhCMe:CH<sub>2</sub> is prepared in liquid phase by dehydration of PhCMe<sub>2</sub>OH in the presence of activated Al<sub>2</sub>O<sub>3</sub> with sp. surface area  $\geq 100$  m<sup>2</sup>/g, pore volume  $\leq 0.8$  mL/g. Thus, PhCMe<sub>2</sub>OH solution was autoclaved with NK 324D (activated Al<sub>2</sub>O<sub>3</sub>) at 200° for 5 h to give PhCMe:CH<sub>2</sub> with 99.9% conversion.

ACCESSION NUMBER: 2006:1005326 CAPLUS

DOCUMENT NUMBER: 145:357237

TITLE: Manufacture of  $\alpha$ -methylstyrene from cumyl alcohol

INVENTOR(S): Nakayama, Toshio; Suzuki, Akio

PATENT ASSIGNEE(S): Sumitomo Chemical Co., Ltd., Japan

SOURCE: Jpn. Kokai Tokkyo Koho, 5pp.

CODEN: JKXXAF

DOCUMENT TYPE: Patent

LANGUAGE: Japanese

FAMILY ACC. NUM. COUNT: 1

PATENT INFORMATION:

PATENT NO.

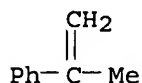
KIND

DATE

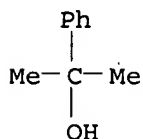
APPLICATION NO.

DATE

-----  
 JP 2006257022      A      20060928      JP 2005-76610      20050317  
 PRIORITY APPLN. INFO.:      JP 2005-76610      20050317  
 IT 98-83-9P,  $\alpha$ -Methylstyrene, preparation  
 RL: IMF (Industrial manufacture); PREP (Preparation)  
 (manufacture of  $\alpha$ -methylstyrene from cumyl alc. with activated Al<sub>2</sub>O<sub>3</sub>)  
 RN 98-83-9 CAPLUS  
 CN Benzene, (1-methylethenyl)- (CA INDEX NAME)



IT 617-94-7,  $\alpha$ -Cumyl alcohol  
 RL: RCT (Reactant); RACT (Reactant or reagent)  
 (manufacture of  $\alpha$ -methylstyrene from cumyl alc. with activated Al<sub>2</sub>O<sub>3</sub>)  
 RN 617-94-7 CAPLUS  
 CN Benzenemethanol,  $\alpha, \alpha$ -dimethyl- (CA INDEX NAME)



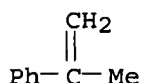
L10 ANSWER 2 OF 11 CAPLUS COPYRIGHT 2007 ACS on STN  
 AB This invention pertains to a method for producing cumene from cumyl alc. and hydrogen with a dehydration catalyst and a hydrogenation catalyst, characterized in that the dehydration catalyst and the hydrogenation catalyst have been alternately packed in a reactor. This invention provides a convenient method to prepare cumene at low cost.  
 ACCESSION NUMBER: 2005:283444 CAPLUS  
 DOCUMENT NUMBER: 142:355029  
 TITLE: Process for preparation of cumene  
 INVENTOR(S): Yamamoto, Jun; Katao, Masaaki  
 PATENT ASSIGNEE(S): Sumitomo Chemical Company, Limited, Japan  
 SOURCE: PCT Int. Appl., 14 pp.  
 CODEN: PIXXD2  
 DOCUMENT TYPE: Patent  
 LANGUAGE: Japanese  
 FAMILY ACC. NUM. COUNT: 1  
 PATENT INFORMATION:

PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
WO 2005028405	A1	20050331	WO 2004-JP13587	20040910
W: AE, AG, AL, AM, AT, AU, AZ, BA, BB, BG, BR, BW, BY, BZ, CA, CH, CN, CO, CR, CU, CZ, DE, DK, DM, DZ, EC, EE, EG, ES, FI, GB, GD, GE, GH, GM, HR, HU, ID, IL, IN, IS, KE, KG, KP, KR, KZ, LC, LK, LR, LS, LT, LU, LV, MA, MD, MG, MK, MN, MW, MX, MZ, NA, NI, NO, NZ, OM, PG, PH, PL, PT, RO, RU, SC, SD, SE, SG, SK, SL, SY, TJ, TM, TN, TR, TT, TZ, UA, UG, US, UZ, VC, VN, YU, ZA, ZM, ZW				
RW: BW, GH, GM, KE, LS, MW, MZ, NA, SD, SL, SZ, TZ, UG, ZM, ZW, AM, AZ, BY, KG, KZ, MD, RU, TJ, TM, AT, BE, BG, CH, CY, CZ, DE, DK, EE, ES, FI, FR, GB, GR, HU, IE, IT, LU, MC, NL, PL, PT, RO, SE, SI, SK, TR, BF, BJ, CF, CG, CI, CM, GA, GN, GQ, GW, ML, MR, NE, SN, TD, TG				
JP 2005089380	A	20050407	JP 2003-325742	20030918
JP 2005089381	A	20050407	JP 2003-325743	20030918
EP 1666442	A1	20060607	EP 2004-773231	20040910

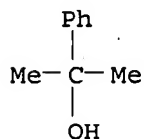
R: AT, BE, CH, DE, DK, ES, FR, GB, GR, IT, LI, LU, NL, SE, MC, PT,  
 IE, SI, FI, RO, CY, TR, BG, CZ, EE, HU, PL, SK  
 CN 1852879 A 20061025 CN 2004-80026940 20040910  
 US 2006258892 A1 20061116 US 2006-571471 20060313  
 PRIORITY APPLN. INFO.: JP 2003-325742 A 20030918  
 JP 2003-325743 A 20030918  
 WO 2004-JP13587 W 20040910

OTHER SOURCE(S): CASREACT 142:355029

IT 98-83-9P, preparation  
 RL: IMF (Industrial manufacture); RCT (Reactant); SPN (Synthetic  
 preparation); PREP (Preparation); RACT (Reactant or reagent)  
 (intermediate; preparation of cumene)  
 RN 98-83-9 CAPLUS  
 CN Benzene, (1-methylethenyl)- (CA INDEX NAME)



IT 617-94-7  
 RL: RCT (Reactant); RACT (Reactant or reagent)  
 (preparation of cumene)  
 RN 617-94-7 CAPLUS  
 CN Benzenemethanol,  $\alpha,\alpha$ -dimethyl- (CA INDEX NAME)



REFERENCE COUNT: 3 THERE ARE 3 CITED REFERENCES AVAILABLE FOR THIS  
 RECORD. ALL CITATIONS AVAILABLE IN THE RE FORMAT

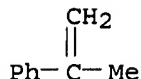
L10 ANSWER 3 OF 11 CAPLUS COPYRIGHT 2007 ACS on STN

AB A new synthetic procedure to Me ethers has been developed by the reaction  
 of alcs. with dimethylcarbonate, a non-toxic and environmentally friendly  
 reagent. The methylation of alcs. is catalyzed by alumina or  
 hydrotalcite. The Me carbonate formed in the first step undergoes  
 decarboxylation in the second step, to give the corresponding methylether.  
 The reactivity follows the order: primary > secondary » tertiary  
 alcs. The reaction can be efficiently performed under both batch and  
 continuous flow conditions.

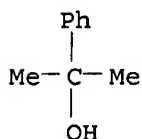
ACCESSION NUMBER: 2004:1001688 CAPLUS  
 DOCUMENT NUMBER: 143:250035  
 TITLE: Synthesis of methylethers by reaction of alcohols with  
 dimethylcarbonate  
 AUTHOR(S): Tundo, Piero; Memoli, Sofia; Herault, David; Hill,  
 Karlheinz  
 CORPORATE SOURCE: Interuniversity Consortium "Chemistry for the  
 Environment", Marghera Venice, 30175, Italy  
 SOURCE: Green Chemistry (2004), 6(12), 609-612  
 CODEN: GRCHFJ; ISSN: 1463-9262  
 PUBLISHER: Royal Society of Chemistry  
 DOCUMENT TYPE: Journal  
 LANGUAGE: English  
 OTHER SOURCE(S): CASREACT 143:250035

IT 98-83-9P, 2-Phenylpropene, preparation  
 RL: IMF (Industrial manufacture); PREP (Preparation)  
 (low-yield; manufacture of methylethers by reaction of alcs. with  
 dimethylcarbonate or di-Et carbonate in presence of various catalysts)

RN 98-83-9 CAPLUS  
CN Benzene, (1-methylethenyl)- (CA INDEX NAME)



IT 617-94-7, 2-Phenyl-2-propanol  
RL: RCT (Reactant); RACT (Reactant or reagent)  
(low-yield; manufacture of methylethers by reaction of alcs. with dimethylcarbonate or di-Et carbonate in presence of various catalysts)  
RN 617-94-7 CAPLUS  
CN Benzenemethanol,  $\alpha,\alpha$ -dimethyl- (CA INDEX NAME)



REFERENCE COUNT: 21 THERE ARE 21 CITED REFERENCES AVAILABLE FOR THIS RECORD. ALL CITATIONS AVAILABLE IN THE RE FORMAT

L10 ANSWER 4 OF 11 CAPLUS COPYRIGHT 2007 ACS on STN  
AB This invention pertains to a method by which an aromatic compound having a side chain having a double bond is selectively hydrogenated only at the double bond of the side chain, which comprises using at least two hydrogenation catalysts and bringing a feed material comprising the aromatic compound having a side chain having a double bond into contact first with a highly active catalyst and subsequently with a highly selective catalyst. For example,  $\alpha$ -methylstyrene was selectively hydrogenated in the presence of Pd/C and Cu-Cr2O3 to give cumene with no isopropylcyclohexane production This invention provides an effective method for chemoselective hydrogenation of an aromatic compound having a side chain having a double bond.

ACCESSION NUMBER: 2004:589517 CAPLUS  
DOCUMENT NUMBER: 141:140168  
TITLE: Process for preparation of cumene by hydrogenation of  $\alpha$ -methylstyrene  
INVENTOR(S): Suzuki, Tetsuo; Ishino, Masaru; Shiraishi, Shigenori; Katao, Masaaki  
PATENT ASSIGNEE(S): Sumitomo Chemical Company, Limited, Japan  
SOURCE: PCT Int. Appl., 16 pp.  
CODEN: PIXXD2  
DOCUMENT TYPE: Patent  
LANGUAGE: Japanese  
FAMILY ACC. NUM. COUNT: 1  
PATENT INFORMATION:

PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
WO 2004060838	A1	20040722	WO 2003-JP16435	20031222
W:	AE, AG, AL, AM, AT, AU, AZ, BA, BB, BG, BR, BW, BY, BZ, CA, CH, CN, CO, CR, CU, CZ, DE, DK, DM, DZ, EC, EE, EG, ES, FI, GB, GD, GE, GH, GM, HR, HU, ID, IL, IN, IS, KE, KG, KR, KZ, LC, LK, LR, LS, LT, LU, LV, MA, MD, MG, MK, MN, MW, MX, MZ, NI, NO, NZ, OM, PG, PH, PL, PT, RO, RU, SC, SD, SE, SG, SK, SL, SY, TJ, TM, TN, TR, TT, TZ, UA, UG, US, UZ, VC, VN, YU, ZA, ZM, ZW			
RW:	BW, GH, GM, KE, LS, MW, MZ, SD, SL, SZ, TZ, UG, ZM, ZW, AM, AZ, BY, KG, KZ, MD, RU, TJ, TM, AT, BE, BG, CH, CY, CZ, DE, DK, EE, ES, FI, FR, GB, GR, HU, IE, IT, LU, MC, NL, PT, RO, SE, SI, SK, TR, BF, BJ, CF, CG, CI, CM, GA, GN, GQ, GW, ML, MR, NE, SN, TD, TG			

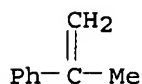
JP 2004262912	A	20040924	JP 2003-197751	20030716
JP 2004269504	A	20040930	JP 2003-404226	20031203
JP 2004269505	A	20040930	JP 2003-404227	20031203
AU 2003292602	A1	20040729	AU 2003-292602	20031222
PRIORITY APPLN. INFO.:			JP 2003-893	A 20030107
			JP 2003-40760	A 20030219
			JP 2003-40761	A 20030219
			JP 2003-197751	A 20030716
			WO 2003-JP16435	W 20031222

OTHER SOURCE(S): CASREACT 141:140168

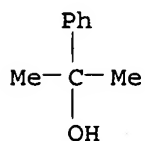
IT 98-83-9P,  $\alpha$ -Methylstyrene, preparation  
 RL: IMF (Industrial manufacture); RCT (Reactant); SPN (Synthetic preparation); PREP (Preparation); RACT (Reactant or reagent) (intermediate; preparation of cumene by hydrogenation of  $\alpha$ -methylstyrene)

RN 98-83-9 CAPLUS

CN Benzene, (1-methylethenyl)- (CA INDEX NAME)



IT 617-94-7  
 RL: RCT (Reactant); RACT (Reactant or reagent) (preparation of cumene by hydrogenation of  $\alpha$ -methylstyrene)  
 RN 617-94-7 CAPLUS  
 CN Benzenemethanol,  $\alpha,\alpha$ -dimethyl- (CA INDEX NAME)



L10 ANSWER 5 OF 11 CAPLUS COPYRIGHT 2007 ACS on STN  
 AB Production of  $\alpha$ -methylstyrene, acetone, and phenol occurs where the amount of  $\alpha$ -methylstyrene produced may be controlled by selectively converting a portion of the cumene hydroperoxide to di-Me Ph carbinol, the hydrated form of  $\alpha$ -methylstyrene. The di-Me Ph carbinol produced will lead to increased production of  $\alpha$ -methylstyrene upon dehydration in the acid cleavage unit of the phenol plant. By controlling the fraction of the cumene hydroperoxide reduced to di-Me Ph carbinol, the amount of  $\alpha$ -methylstyrene produced in the plant can be continuously set to meet the demand of the market for  $\alpha$ -methylstyrene. Also a non-acidic catalyst for reduction of cumene hydroperoxide is used.

ACCESSION NUMBER: 2004:493598 CAPLUS

DOCUMENT NUMBER: 141:38983

TITLE: Co-production of phenol, acetone, alpha-methylstyrene and propylene oxide, and catalyst

INVENTOR(S): Levin, Doron; Smith, C. Morris; Santiesteban, Jose Guadalupe; Vartuli, James C.

PATENT ASSIGNEE(S): Exxonmobil Chemical Patents Inc., USA

SOURCE: U.S. Pat. Appl. Publ., 11 pp.

CODEN: USXXCO

DOCUMENT TYPE: Patent

LANGUAGE: English

FAMILY ACC. NUM. COUNT: 1

PATENT INFORMATION:

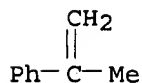
PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
------------	------	------	-----------------	------

US 2004116749	A1	20040617	US 2002-320237	20021216
US 6984761	B2	20060110		
WO 2004058672	A1	20040715	WO 2003-US40283	20031216
W: AE, AG, AL, AM, AT, AU, AZ, BA, BB, BG, BR, BY, BZ, CA, CH, CN, CO, CR, CU, CZ, DE, DK, DM, DZ, EC, EE, ES, FI, GB, GD, GE, GH, GM, HR, HU, ID, IL, IN, IS, JP, KE, KG, KP, KR, KZ, LC, LK, LR, LS, LT, LU, LV, MA, MD, MG, MK, MN, MW, MX, MZ, NI, NO, NZ, OM, PG, PH, PL, PT, RO, RU, SC, SD, SE, SG, SK, SL, SY, TJ, TM, TN, TR, TT, TZ, UA, UG, US, UZ, VC, VN, YU, ZA, ZM, ZW				
RW: BW, GH, GM, KE, LS, MW, MZ, SD, SL, SZ, TZ, UG, ZM, ZW, AM, AZ, BY, KG, KZ, MD, RU, TJ, TM, AT, BE, BG, CH, CY, CZ, DE, DK, EE, ES, FI, FR, GB, GR, HU, IE, IT, LU, MC, NL, PT, RO, SE, SI, SK, TR, BF, BJ, CF, CG, CI, CM, GA, GN, GQ, GW, ML, MR, NE, SN, TD, TG				
AU 2003297321	A1	20040722	AU 2003-297321	20031216
EP 1575888	A1	20050921	EP 2003-814132	20031216
R: AT, BE, CH, DE, DK, ES, FR, GB, GR, IT, LI, LU, NL, SE, MC, PT, IE, SI, LT, LV, FI, RO, MK, CY, AL, TR, BG, CZ, EE, HU, SK				
CN 1726176	A	20060125	CN 2003-80106171	20031216
JP 2006509829	T	20060323	JP 2004-563715	20031216
PRIORITY APPLN. INFO.:			US 2002-320237	A1 20021216
			WO 2003-US40283	W 20031216

IT 98-83-9P,  $\alpha$ -Methylstyrene, preparation  
 RL: EPR (Engineering process); IMF (Industrial manufacture); PEP (Physical, engineering or chemical process); PREP (Preparation); PROC (Process)  
 (cumene hydroperoxide decomposition for co-production of phenol, acetone,  $\alpha$ -methylstyrene and propylene oxide with enough methylstyrene to meet market demand)

RN 98-83-9 CAPLUS

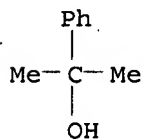
CN Benzene, (1-methylethenyl)- (CA INDEX NAME)



IT 617-94-7P, Dimethyl phenyl carbinol  
 RL: IMF (Industrial manufacture); RCT (Reactant); PREP (Preparation); RACT (Reactant or reagent)  
 (preparation and dehydration; cumene hydroperoxide decomposition for co-production of phenol, acetone,  $\alpha$ -methylstyrene and propylene oxide with enough methylstyrene to meet market demand)

RN 617-94-7 CAPLUS

CN Benzenemethanol,  $\alpha, \alpha$ -dimethyl- (CA INDEX NAME)



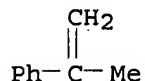
REFERENCE COUNT: 23 THERE ARE 23 CITED REFERENCES AVAILABLE FOR THIS RECORD. ALL CITATIONS AVAILABLE IN THE RE FORMAT

L10 ANSWER 6 OF 11 CAPLUS COPYRIGHT 2007 ACS on STN

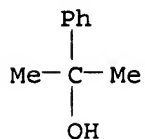
AB Olefins (e.g., styrene) are prepared by the gas-phase dehydration of alcs. (e.g., 1-phenyl-1-ethanol) at elevated temperature and in the presence of a catalyst comprising alumina treated with an aqueous solution of an alkali metal acetate (e.g., calcium acetate) with a metal content of 0.1-1 M and which is subjected to heat treatment at 380-420°.

ACCESSION NUMBER: 2003:312812 CAPLUS  
 DOCUMENT NUMBER: 139:351065  
 TITLE: Dehydration process and catalysts for the manufacture of olefins from alcohols  
 INVENTOR(S): Busygin, V. M.; Karalin, E. A.; Kharlampidi, Kh. E.; Miroshkin, N. P.; Ksenofontov, D. V.; Belokurov, V. A.; Vasil'ev, I. M.; Galimzyanov, R. M.; Zalyaev, A. G.  
 PATENT ASSIGNEE(S): Otkrytoe Aktsionernoe Obshchestvo "Nizhnekamskneftekhim", Russia  
 SOURCE: Russ., No pp. given  
 CODEN: RUXXE7  
 DOCUMENT TYPE: Patent  
 LANGUAGE: Russian  
 FAMILY ACC. NUM. COUNT: 1  
 PATENT INFORMATION:

PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
RU 2194690	C1	20021220	RU 2001-121209	20010727
PRIORITY APPLN. INFO.:			RU 2001-121209	20010727
IT 98-83-9P, $\alpha$ -Methylstyrene, preparation				
RL: IMF (Industrial manufacture); PREP (Preparation) (dehydration process and catalysts for the manufacture of olefins from alcs.)				
RN 98-83-9 CAPLUS				
CN Benzene, (1-methylethenyl)- (CA INDEX NAME)				



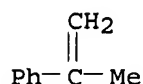
IT 617-94-7  
 RL: RCT (Reactant); RACT (Reactant or reagent)  
 (dehydration process and catalysts for the manufacture of olefins from alcs.)  
 RN 617-94-7 CAPLUS  
 CN Benzenemethanol,  $\alpha, \alpha$ -dimethyl- (CA INDEX NAME)



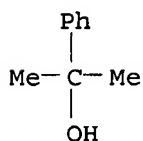
L10 ANSWER 7 OF 11 CAPLUS COPYRIGHT 2007 ACS on STN  
 AB Phenol/acetone cogeneration via cumene hydroperoxide (CHP) cleavage has been demonstrated using various classes of novel solid acid catalysts. Mineral acid-treated montmorillonite silica-alumina clays, heteropoly acids impregnated into Group IV oxide supports, fluorophosphoric acid and HF-treated oxides, as well as montmorillonite clays modified with heteropoly acids or certain Lewis acids are each effective. The influence of solid acid structure upon phenol yields has been examined while minimizing byproduct acetophenone,  $\alpha$ -methylstyrene, 2-phenyl-2-propanol, mesityl oxide formation, etc. For the more promising candidates, decomposition of 80% CHP solns. in continuous, plug-flow reactor systems, under mild conditions (ca. 60°C at LHSV $\approx$ 10) has been realized.

ACCESSION NUMBER: 1997:622636 CAPLUS  
 DOCUMENT NUMBER: 127:333047

TITLE: Phenol/acetone cogeneration via solid acid catalysis  
 AUTHOR(S): Knifton, John F.; Sanderson, John R.  
 CORPORATE SOURCE: Huntsman Corporation, PO Box 15730, Austin, TX, 78761, USA  
 SOURCE: Applied Catalysis, A: General (1997), 161(1-2), 199-211  
 CODEN: ACAGE4; ISSN: 0926-860X  
 PUBLISHER: Elsevier  
 DOCUMENT TYPE: Journal  
 LANGUAGE: English  
 IT 98-83-9P,  $\alpha$ -Methylstyrene, preparation 617-94-7P, 2-Phenyl-2-propanol  
 RL: BYP (Byproduct); PREP (Preparation)  
 (byproduct; phenol/acetone cogeneration via solid acid-catalyzed decomposition of cumene hydroperoxide)  
 RN 98-83-9 CAPLUS  
 CN Benzene, (1-methylethenyl)- (CA INDEX NAME)



RN 617-94-7 CAPLUS  
 CN Benzenemethanol,  $\alpha, \alpha$ -dimethyl- (CA INDEX NAME)



REFERENCE COUNT: 14 THERE ARE 14 CITED REFERENCES AVAILABLE FOR THIS RECORD. ALL CITATIONS AVAILABLE IN THE RE FORMAT

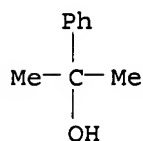
L10 ANSWER 8 OF 11 CAPLUS COPYRIGHT 2007 ACS on STN  
 AB Phenols and derivs. are alkylated and/or aralkylated in the gas and/or liquid phases by at least one agent selected from (aryl)alkyl chlorides, (aryl)alkenes, (aryl)alkanols, dialkyl ethers, and (aryl)alkene dimers, on a heterogeneous acid catalyst at 50-250°, with mol ratio (aryl)alkylating agent to phenol of (0.1-4):1, and optionally with an inert gas. The method is characterized by use of an acidic Al<sub>2</sub>O<sub>3</sub> catalyst, prepared by acidifying solid Al<sub>2</sub>O<sub>3</sub> with at least one halogen and/or halogen compound, and which is reactivated by oxidizing and/or burning at 200-700°, and/or is activated by batchwise, semi-continuous, or continuous acidification. For example, com.  $\gamma$ -Al<sub>2</sub>O<sub>3</sub> was activated by contact with 5% aqueous HCl for 24 h, followed by heating at 350° for 2 h. In an aralkylation of PhOH by tech.  $\alpha$ -methylstyrene (I) (resp. mol ratio 3) at 140°, the above catalyst (A) and an unactivated catalyst (B) gave the following comparative results (A/B): conversion of I 100%/95%, conversion of PhOH 26.9%/3.0%, selectivity of I to cumylphenols 89.4%/9.4%, selectivity of I to dimers 8.0%/70.6%, and selectivity of PhOH to cumylphenols 98.8%/87.3%. Results for many runs using different catalysts, (aryl)alkylating agents, phenols, and reaction condition are given.

ACCESSION NUMBER: 1994:457130 CAPLUS  
 DOCUMENT NUMBER: 121:57130  
 TITLE: Process for alkylation and/or arylalkylation of phenol and/or its derivatives  
 INVENTOR(S): Macho, Vendelin; Ureck, Ludovit; Jureckova, Emilia; Kavala, Miroslav; Novacek, Peter  
 PATENT ASSIGNEE(S): Slovenska Technicka Univerzita, Czech.

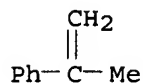


SOURCE: Czech., 14 pp.  
 CODEN: CZXXA9  
 DOCUMENT TYPE: Patent  
 LANGUAGE: Slovak  
 FAMILY ACC. NUM. COUNT: 1  
 PATENT INFORMATION:

PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
CS 276820	B6	19920812	CS 1990-2602	19900528
PRIORITY APPLN. INFO.:			CS 1990-2602	19900528
OTHER SOURCE(S): CASREACT 121:57130				
IT 617-94-7, Dimethylphenylcarbinol				
RL: RCT (Reactant); RACT (Reactant or reagent)				
(aryllalkylation by, of phenol, acidic alumina catalysts for)				
RN 617-94-7 CAPLUS				
CN Benzenemethanol, $\alpha,\alpha$ -dimethyl- (CA INDEX NAME)				



IT 6144-04-3P,  $\alpha$ -Methylstyrene dimer  
 RL: PREP (Preparation)  
 (formation of and arylalkylation by, of phenols, acidic alumina catalysts for)  
 RN 6144-04-3 CAPLUS  
 CN Benzene, (1-methylethenyl)-, dimer (CA INDEX NAME)  
 CM 1  
 CRN 98-83-9  
 CMF C9 H10

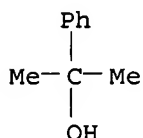


L10 ANSWER 9 OF 11 CAPLUS COPYRIGHT 2007 ACS on STN  
 AB Heterogeneous catalysts with improved mech. properties and a high activity in the cleavage of olefin oligomers, alkylphenols, and aralkylphenols and alkylation of aromatic compds. at 60-250° are prepared by impregnating a heat-resistant wide-porous particulate carrier (e.g., graphite, grained charcoal, Al<sub>2</sub>O<sub>3</sub>, and aluminosilicate) with phthalic anhydride (I), maleic anhydride, phthalic acid, maleic acid, and/or Ac<sub>2</sub>O, polycondensating at 350-550° to form crosslinked aromatic polyketone resins, and sulfonating with SO<sub>3</sub>, oleum, concentrate H<sub>2</sub>SO<sub>4</sub>, and/or ClSO<sub>3</sub>H. Thus, 200 g crushed coke (particle size 2-4 mm) was soaked with 300 g 40% PhMe solution of I, filtered, dried at 60-70° and pressure 2.67 kPa, heated in a rotary autoclave to 430-60° in the presence of 80 g CaO for .apprx.6 h, sulfonated with 450 g 100% H<sub>2</sub>SO<sub>4</sub> at 100° for 1.5 h, filtered, and washed, giving the cation-exchanging catalyst with the exchange capacity 4.7 mg-equiv/g which was used in the aralkylation of PhOH at 90-170°.

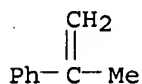
ACCESSION NUMBER: 1992:477554 CAPLUS  
 DOCUMENT NUMBER: 117:77554  
 TITLE: Method of catalyst preparation  
 INVENTOR(S): Jurecek, Ludovit; Macho, Vendelin; Moravek, Stefan

PATENT ASSIGNEE(S): Czech.  
 SOURCE: Czech., 8 pp.  
 CODEN: CZXXA9  
 DOCUMENT TYPE: Patent  
 LANGUAGE: Slovak  
 FAMILY ACC. NUM. COUNT: 1  
 PATENT INFORMATION:

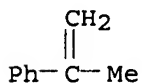
	PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
	CS 270530	B1	19900712	CS 1988-7325	19881107
PRIORITY APPLN. INFO.:				CS 1988-7325	19881107
IT	617-94-7, Dimethylphenylcarbinol				
	RL: USES (Uses)				
	(aryllalkylation by, of phenol, preparation of sulfonated polyketone cation-exchange catalyst for)				
RN	617-94-7 CAPLUS				
CN	Benzenemethanol, $\alpha,\alpha$ -dimethyl- (CA INDEX NAME)				



IT 98-83-9DP,  $\alpha$ -Methylstyrene, dimers  
 RL: RCT (Reactant); SPN (Synthetic preparation); PREP (Preparation); RACT (Reactant or reagent)  
 (preparation and reaction of, preparation of sulfonated polyketone cation-exchange catalyst for)  
 RN 98-83-9 CAPLUS  
 CN Benzene, (1-methylethenyl)- (CA INDEX NAME)



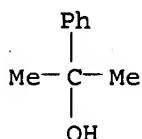
IT 98-83-9P,  $\alpha$ -Methylstyrene, preparation  
 RL: SPN (Synthetic preparation); PREP (Preparation)  
 (preparation of, preparation of sulfonated polyketone cation-exchange catalyst for)  
 RN 98-83-9 CAPLUS  
 CN Benzene, (1-methylethenyl)- (CA INDEX NAME)



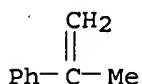
L10 ANSWER 10 OF 11 CAPLUS COPYRIGHT 2007 ACS on STN  
 AB Catalytic activity of some unmodified clay minerals was examined by dehydration, dimerization, and cyclization of 2-phenyl-2-propanol. Clay minerals examined were: montmorillonite, acid-treated montmorillonite (Japanese acid clay), halloysite (tubular, spherical), kaolinite, and amorphous silica-alumina. On montmorillonite, the reactions did not proceed at all, but proceeded rather smoothly on the other clay minerals. The activity of the clay minerals was estimated from the rate consts. of these reactions. The change in the basal space of the clay

minerals did not affect the catalytic activity, and the reaction rates did not depend on the surface area of clay minerals. The catalytically active sites of clay minerals were at the broken edge of crystals.

ACCESSION NUMBER: 1990:480930 CAPLUS  
DOCUMENT NUMBER: 113:80930  
TITLE: Catalytic dehydration, dimerization, and cyclization of 2-phenyl-2-propanol by some unmodified clay minerals  
AUTHOR(S): Okada, Shinichi; Okazaki, Masanori; Nakadaira, Yasuhiro; Nakagawa, Naoya  
CORPORATE SOURCE: Dep. Chem., Univ. Electro-Commun., Chofu, 182, Japan  
SOURCE: Nippon Kagaku Kaishi (1990), (7), 719-24  
CODEN: NKAKB8; ISSN: 0369-4577  
DOCUMENT TYPE: Journal  
LANGUAGE: Japanese  
IT 617-94-7, 2-Phenyl-2-propanol  
RL: USES (Uses)  
(dehydration and dimerization and cyclization of, clay mineral catalyst for)  
RN 617-94-7 CAPLUS  
CN Benzenemethanol,  $\alpha,\alpha$ -dimethyl- (CA INDEX NAME)



IT 98-83-9P,  $\alpha$ -Methyl styrene, preparation  
RL: FORM (Formation, nonpreparative); PREP (Preparation)  
(formation of, from phenylpropanol, clay mineral catalyst for)  
RN 98-83-9 CAPLUS  
CN Benzene, (1-methylethenyl)- (CA INDEX NAME)



L10 ANSWER 11 OF 11 CAPLUS COPYRIGHT 2007 ACS on STN

AB Distillation residues from the cumene production of PhOH are processed by multistage

rectification at 0.1-30 kPa, dehydration, and crystallization to produce pure AcOH,  $\alpha$ -methylstyrene (I), and p-cumylphenol (II). Fractions containing MeCOPh, I, Me<sub>2</sub>PhCOH and I dimers, II, and p-cumyl Ph ether (III), resp., are separated from tars in a rectification column. The MeCOPh fraction is dehydrated over activated Al<sub>2</sub>O<sub>3</sub> catalysts, freed of PhOH by alkaline

extraction,

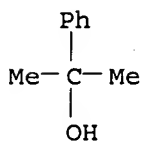
and separated to MeCOPh and I by rectification. II is separated from I dimers by

rectification and refined by alkaline extraction and crystallization from C5-6 hydrocarbons. I dimers and III are decomposed to I on HCl-activated aluminosilicate catalyst at 330-350°. This process gave I, MeCOPh, and II of purity 99.7, 98.87, and 99.97%, resp.

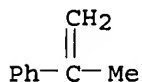
ACCESSION NUMBER: 1988:407099 CAPLUS  
DOCUMENT NUMBER: 109:7099  
TITLE: Production of pure  $\alpha$ -methylstyrene, acetophenone, and p-cumylphenol from distillation residues from phenol production  
INVENTOR(S): Koval, Jan; Kopernicky, Ivan; Mikula, Oldrich; Masarovic, Frantisek; Schwarz, Frantisek; Tomcik,

Kazimir; Durdovic, Peter; Krizka, Pavel; Danilla,  
Frantisek; Tatransky, Ivan  
PATENT ASSIGNEE(S): Czech.  
SOURCE: Czech., 9 pp.  
CODEN: CZXXA9  
DOCUMENT TYPE: Patent  
LANGUAGE: Slovak  
FAMILY ACC. NUM. COUNT: 1  
PATENT INFORMATION:

PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
CS 242259	B1	19860417	CS 1983-9524	19831216
PRIORITY APPLN. INFO.:			CS 1983-9524	19831216
OTHER SOURCE(S):	CASREACT 109:7099			
IT 617-94-7				
RL: RCT (Reactant); RACT (Reactant or reagent) (dehydration of, in methylstyrene manufacture)				
RN 617-94-7	CAPLUS			
CN	Benzenemethanol, $\alpha,\alpha$ -dimethyl- (CA INDEX NAME)			



IT 98-83-9P,  $\alpha$ -Methylstyrene, preparation  
RL: PREP (Preparation)  
(separation of, from waste residues in cumene production of phenol)  
RN 98-83-9 CAPLUS  
CN Benzene, (1-methylethenyl)- (CA INDEX NAME)



=> FIL STNGUIDE  
COST IN U.S. DOLLARS

SINCE FILE	TOTAL
ENTRY	SESSION
208.63	326.69

FULL ESTIMATED COST

DISCOUNT AMOUNTS (FOR QUALIFYING ACCOUNTS)

SINCE FILE	TOTAL
ENTRY	SESSION
-33.54	-33.54

CA SUBSCRIBER PRICE

FILE 'STNGUIDE' ENTERED AT 10:02:56 ON 08 AUG 2007  
USE IS SUBJECT TO THE TERMS OF YOUR CUSTOMER AGREEMENT  
COPYRIGHT (C) 2007 AMERICAN CHEMICAL SOCIETY (ACS)

FILE CONTAINS CURRENT INFORMATION.  
LAST RELOADED: Aug 3, 2007 (20070803/UP).

=> log hold  
COST IN U.S. DOLLARS

SINCE FILE	TOTAL
ENTRY	SESSION
1.50	328.19

FULL ESTIMATED COST

DISCOUNT AMOUNTS (FOR QUALIFYING ACCOUNTS)

SINCE FILE	TOTAL
------------	-------

	ENTRY	SESSION
CA SUBSCRIBER PRICE	0.00	-33.54

SESSION WILL BE HELD FOR 120 MINUTES  
STN INTERNATIONAL SESSION SUSPENDED AT 10:18:13 ON 08 AUG 2007

Connecting via Winsock to STN

Welcome to STN International! Enter x:x

LOGINID:SSPTADEG1625

PASSWORD:

\* \* \* \* \* RECONNECTED TO STN INTERNATIONAL \* \* \* \* \*  
SESSION RESUMED IN FILE 'STNGUIDE' AT 10:35:52 ON 08 AUG 2007  
FILE 'STNGUIDE' ENTERED AT 10:35:52 ON 08 AUG 2007  
COPYRIGHT (C) 2007 AMERICAN CHEMICAL SOCIETY (ACS)

	SINCE FILE	TOTAL
	ENTRY	SESSION
COST IN U.S. DOLLARS		
FULL ESTIMATED COST	1.56	328.25
DISCOUNT AMOUNTS (FOR QUALIFYING ACCOUNTS)		
	SINCE FILE	TOTAL
	ENTRY	SESSION
CA SUBSCRIBER PRICE	0.00	-33.54

=> d hist

(FILE 'HOME' ENTERED AT 09:36:16 ON 08 AUG 2007)

FILE 'REGISTRY' ENTERED AT 09:36:40 ON 08 AUG 2007

L1	STRUCTURE UPLOADED
L2	3 S L1 EXACT
L3	57 S L1 EXACT FULL
L4	STRUCTURE UPLOADED
L5	11 S L4 EXACT FULL

FILE 'CAPLUS' ENTERED AT 09:39:38 ON 08 AUG 2007

L6	48 S L3/SPN AND L5
L7	19 S L6 AND DEHYDRATION
L8	2 S L7 AND ALUMINA
L9	153 S L3/PREP AND L5
L10	11 S L9 AND ALUMINA

FILE 'STNGUIDE' ENTERED AT 10:02:56 ON 08 AUG 2007

=> file caplus

	SINCE FILE	TOTAL
	ENTRY	SESSION
COST IN U.S. DOLLARS		
FULL ESTIMATED COST	1.68	328.37
DISCOUNT AMOUNTS (FOR QUALIFYING ACCOUNTS)		
	SINCE FILE	TOTAL
	ENTRY	SESSION
CA SUBSCRIBER PRICE	0.00	-33.54

FILE 'CAPLUS' ENTERED AT 10:37:02 ON 08 AUG 2007  
USE IS SUBJECT TO THE TERMS OF YOUR STN CUSTOMER AGREEMENT.  
PLEASE SEE "HELP USAGETERMS" FOR DETAILS.  
COPYRIGHT (C) 2007 AMERICAN CHEMICAL SOCIETY (ACS)

Copyright of the articles to which records in this database refer is

held by the publishers listed in the PUBLISHER (PB) field (available for records published or updated in Chemical Abstracts after December 26, 1996), unless otherwise indicated in the original publications. The CA Lexicon is the copyrighted intellectual property of the American Chemical Society and is provided to assist you in searching databases on STN. Any dissemination, distribution, copying, or storing of this information, without the prior written consent of CAS, is strictly prohibited.

FILE COVERS 1907 - 8 Aug 2007 VOL 147 ISS 7  
FILE LAST UPDATED: 7 Aug 2007 (20070807/ED)

Effective October 17, 2005, revised CAS Information Use Policies apply. They are available for your review at:

<http://www.cas.org/infopolicy.html>

=> s l9 and Al2O3

349905 AL2O3

L11 7 L9 AND AL2O3

=> s l9 and "acid"

4414170 "ACID"

1585330 "ACIDS"

4915266 "ACID"

("ACID" OR "ACIDS")

L12 71 L9 AND "ACID"

=> s l12 and catalyst

771107 CATALYST

768556 CATALYSTS

985478 CATALYST

(CATALYST OR CATALYSTS)

L13 48 L12 AND CATALYST

=> s l13 and metal

1762447 METAL

879393 METALS

2130994 METAL

(METAL OR METALS)

L14 8 L13 AND METAL

=> s l9 and acid

4414170 ACID

1585330 ACIDS

4915266 ACID

(ACID OR ACIDS)

L15 71 L9 AND ACID

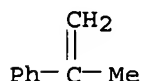
=> d l14 1-8 abs ibib hitstr

L14 ANSWER 1 OF 8 CAPLUS COPYRIGHT 2007 ACS on STN

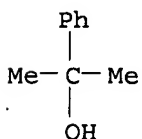
AB Iron complexes of two ligands, HphoxCOOH (2-(2'-hydroxyphenyl)-2-oxazoline-4-carboxylic acid) and HphoxiPr (2-(2'-hydroxyphenyl)-4-isopropyl-2-oxazoline), have been synthesized and characterized by crystal structure analyses. The complexes (HNet3)2[Fe(phoxCOO)2](ClO4) and [Fe(phoxiPr)3] are reported and their mol. structures have been determined using X-ray crystallog. and exhibit pseudo-octahedral geometry around the metal center. The iron complex obtained from rac-HphoxCOOH crystallized in the centrosym. space group Cmca. The two ligands are bound in a tridentate manner generating a meridional coordination with both dianionic ligands on the metal center having the same chirality. The complex (HNet3)2[Fe(phoxCOO)2](ClO4) is the first accurate structural model of the iron complex of a siderophore analog commonly observed in mycobactins. The three bidentate ligands in the complex [Fe(phoxiPr)3]

are bound with like atoms in a meridional manner to the metal center. The metal ion is surrounded by two ligands of the same chirality and one ligand of opposite chirality (ie, RRS or SSR). Due to the presence of a center of symmetry both isomers are present in the crystal structure. The complex (HNet3)2[Fe(phoxCOO)2](ClO4) shows promising activity in the oxidation of alkanes such as toluene, ethylbenzene and cumene, while the complex [Fe(phoxiPr)3] does not show any catalytic activity in alkane oxidns. under the conditions tested. The complex (HNet3)2[Fe(phoxCOO)2](ClO4) is reasonably efficient in the conversion of H2O2 to oxidation products.

ACCESSION NUMBER: 2007:364798 CAPLUS  
 DOCUMENT NUMBER: 147:21906  
 TITLE: Iron complexes of chiral phenol-oxazoline ligands: Structural studies and oxidation catalysis  
 AUTHOR(S): Godbole, Meenal D.; Puig, Marisa Prat; Tanase, Stefania; Kooijman, Huub; Spek, Anthony L.; Bouwman, Elisabeth  
 CORPORATE SOURCE: Leiden Institute of Chemistry, Gorlaeus Laboratories, Leiden University, Leiden, 2300 RA, Neth.  
 SOURCE: Inorganica Chimica Acta (2007), 360(6), 1954-1960  
 CODEN: ICHAA3; ISSN: 0020-1693  
 PUBLISHER: Elsevier B.V.  
 DOCUMENT TYPE: Journal  
 LANGUAGE: English  
 IT 98-83-9P,  $\alpha$ -Methylstyrene, preparation 617-94-7P, 2-Phenyl-2-propanol  
 RL: SPN (Synthetic preparation); PREP (Preparation) (preparation from alkane oxidation in presence of iron (hydroxyphenyl)oxazoline-carboxylato complex as oxidation catalyst)  
 RN 98-83-9 CAPLUS  
 CN Benzene, (1-methylethenyl)- (CA INDEX NAME)



RN 617-94-7 CAPLUS  
 CN Benzenemethanol,  $\alpha,\alpha$ -dimethyl- (CA INDEX NAME)

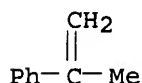


REFERENCE COUNT: 36 THERE ARE 36 CITED REFERENCES AVAILABLE FOR THIS RECORD. ALL CITATIONS AVAILABLE IN THE RE FORMAT

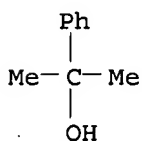
L14 ANSWER 2 OF 8 CAPLUS COPYRIGHT 2007 ACS on STN  
 AB In this work, metal(II) coordinated with copoly(2-methacrylic acid 3-(bis-carboxymethylamino)-2-hydroxy-Pr ester-styrene-acrylonitrile- divinylbenzene) was synthesized and used as a catalyst for cumene peroxidn. The fractions of chelating groups in all the copolymer supports were ranged from 6.7 to 10.4 mol% from elemental anal., whereas the metal chelating capacity for Co(II), Cu(II), Ce(II), and Mn(II) were located at 0.46 and 0.94 meq/g from the ICP detection. According to BET measurements, the surface areas of the polymer support were in the range from 0.02467 to 0.9700 m2/g, sufficient to provide reaction sites for both reactant and active groups. The reaction rate was up to  $0.821 \times 10^{-3}$  M/m2 min at 80 °C in

the initial stage without any inductive period for this system. Meanwhile, the selectivity to cumene peroxide is maintained at 100% over 1.5 h of reaction. As the reaction has proceeded for 10 h, the conversion of cumene and the selectivity to cumene peroxide were 38% and 51%, resp. The result was better than that ever reported in the literature. In addition, the order of catalytic activity for various metal ions is Mn(II) > Ce(IV) > Co(II) > Cu(II). However, the selectivity of cumene peroxide decreased with the increase in conversion owing to the side reaction. Fortunately, increasing the oxygen flow rate was one of the practical methods to inhibit the side reaction and promote the selectivity of cumene peroxide.

ACCESSION NUMBER: 2003:946830 CAPLUS  
 DOCUMENT NUMBER: 140:289156  
 TITLE: Study on the peroxidation of cumene catalyzed by metal-chelated copolymer  
 AUTHOR(S): Wang, Cheng-Chien; Chen, Hui-Chun; Chen, Chuh-Yean; Chen, Chuh-Yung  
 CORPORATE SOURCE: Department of Chemical Engineering, Southern Taiwan University of Technology, Tainan, 710, Taiwan  
 SOURCE: Reactive & Functional Polymers (2003), 57(2-3), 125-135  
 CODEN: RFPOF6; ISSN: 1381-5148  
 PUBLISHER: Elsevier Science B.V.  
 DOCUMENT TYPE: Journal  
 LANGUAGE: English  
 OTHER SOURCE(S): CASREACT 140:289156  
 IT 98-83-9P, 1-Methylethenyl benzene, preparation 617-94-7P  
 , 2-Phenyl-2-propanol  
 RL: BYP (Byproduct); PREP (Preparation)  
 (peroxidn. of cumene catalyzed by metal-chelated copolymer)  
 RN 98-83-9 CAPLUS  
 CN Benzene, (1-methylethenyl)- (CA INDEX NAME)



RN 617-94-7 CAPLUS  
 CN Benzenemethanol,  $\alpha,\alpha$ -dimethyl- (CA INDEX NAME)



REFERENCE COUNT: 23 THERE ARE 23 CITED REFERENCES AVAILABLE FOR THIS RECORD. ALL CITATIONS AVAILABLE IN THE RE FORMAT

L14 ANSWER 3 OF 8 CAPLUS COPYRIGHT 2007 ACS on STN  
 AB Benzylic and allylic alcs. were deoxygenatively dimerized by a treatment with lanthanum metal and chlorotrimethylsilane in the presence of a catalytic amount of iodine, giving the corresponding coupling products, alkanes, in moderate-to-good yields. This dimerization reaction was dramatically accelerated by the addition of a catalytic amount of copper(I) iodide. Similarly, ethers and esters were deoxygenatively dimerized by La/Me<sub>3</sub>SiCl/I<sub>2</sub>/CuI system in the presence of a catalytic amount of H<sub>2</sub>O.

ACCESSION NUMBER: 2003:230580 CAPLUS  
 DOCUMENT NUMBER: 139:36280  
 TITLE: Deoxygenative dimerization of benzylic and allylic alcohols, and their ethers and esters using lanthanum

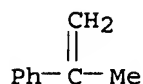


metal and chlorotrimethylsilane in the presence of a catalytic amount of iodine and copper(I) iodide

AUTHOR(S): Nishino, Toshiki; Nishiyama, Yutaka; Sonoda, Noboru  
 CORPORATE SOURCE: Department of Applied Chemistry, Faculty of Engineering, Kansai University, Osaka, 564-8680, Japan  
 SOURCE: Bulletin of the Chemical Society of Japan (2003), 76(3), 635-641  
 CODEN: BCSJA8; ISSN: 0009-2673  
 PUBLISHER: Chemical Society of Japan  
 DOCUMENT TYPE: Journal  
 LANGUAGE: English  
 OTHER SOURCE(S): CASREACT 139:36280

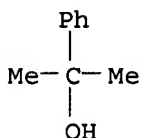
IT 98-83-9P, preparation  
 RL: BYP (Byproduct); PREP (Preparation)  
 (deoxygenative dimerization of benzylic and allylic alcs. and their ethers and esters using lanthanum metal and chlorotrimethylsilane in the presence of a catalytic amount of iodine and copper(I) iodide)

RN 98-83-9 CAPLUS  
 CN Benzene, (1-methylethenyl)- (CA INDEX NAME)



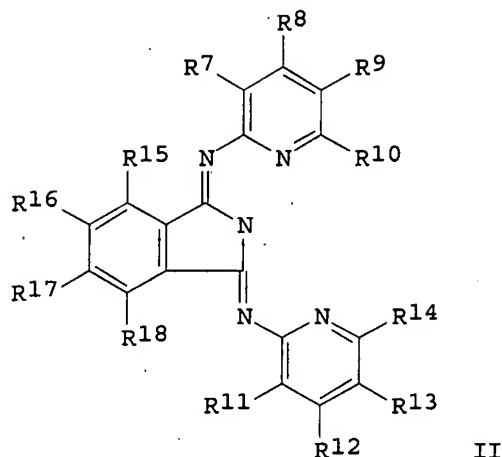
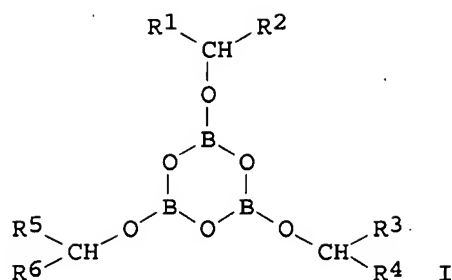
IT 617-94-7,  $\alpha,\alpha$ -Dimethylbenzyl alcohol  
 RL: RCT (Reactant); RACT (Reactant or reagent)  
 (deoxygenative dimerization of benzylic and allylic alcs. and their ethers and esters using lanthanum metal and chlorotrimethylsilane in the presence of a catalytic amount of iodine and copper(I) iodide)

RN 617-94-7 CAPLUS  
 CN Benzenemethanol,  $\alpha,\alpha$ -dimethyl- (CA INDEX NAME)



REFERENCE COUNT: 67 THERE ARE 67 CITED REFERENCES AVAILABLE FOR THIS RECORD. ALL CITATIONS AVAILABLE IN THE RE FORMAT

L14 ANSWER 4 OF 8 CAPLUS COPYRIGHT 2007 ACS on STN  
 GI



AB Tertiary olefins are prepared by continuous liquid-phase dehydration in the presence of a polyborate or a cyclic boroxine of formula I (R1-R6 = H or C1-30-hydrocarbyl). Spent boroxine is removed and charged to a subsequent reactor, in which it is regenerated by heating and recycled to the dehydrated reactor. The tert-alc. (e.g., tert-BuOH, tert-amyl alc., or  $\alpha,\alpha$ -dimethylbenzyl alc.) is reacted at  $>80^\circ$  (preferably  $>100^\circ$ ) and a 0.1-10:1 (preferably 0.5-2:1) alc.-catalyst ratio. The alc. is conveniently prepared by oxidation of the corresponding branched hydrocarbon in the presence of a transition metal complex, of formula  $\text{LnMXpY}$  (M is chosen from Fe, Co, Mn, and Cu; X is an anion chosen from carboxylate, alkylphosphate, alkylsulfonate, OH-,  $\mu$ -oxide, and  $\mu$ -peroxide; Y is chosen from alkylperoxo, aralkylperoxo,  $\mu$ -peroxo, or peroxo; and L is a tridentate chelating ligand of formula II). The tert-alkenes have application in manufacture of gasoline antiknock-extender additives.

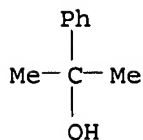
ACCESSION NUMBER: 1994:111438 CAPLUS  
DOCUMENT NUMBER: 120:111438  
TITLE: Synthesis of tertiary olefins by dehydration of a tertiary alcohol in the presence of boroxine catalysts  
INVENTOR(S): Alagy, Jacques; Busson, Christian; Viltard, Jean Charles  
PATENT ASSIGNEE(S): Institut Francais du Petrole, Fr.  
SOURCE: Fr. Demande, 17 pp.  
CODEN: FRXXBL  
DOCUMENT TYPE: Patent  
LANGUAGE: French  
FAMILY ACC. NUM. COUNT: 1  
PATENT INFORMATION:

PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
FR 2686338	A1	19930723	FR 1992-630	19920120
FR 2686338	B1	19950602		

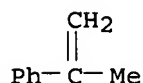
PRIORITY APPLN. INFO.: FR 1992-630 19920120

IT 617-94-7,  $\alpha,\alpha$ -Dimethylbenzyl alcohol  
RL: RCT (Reactant); RACT (Reactant or reagent)  
(dehydration of, to  $\alpha$ -methylstyrene, boroxine catalysts for)

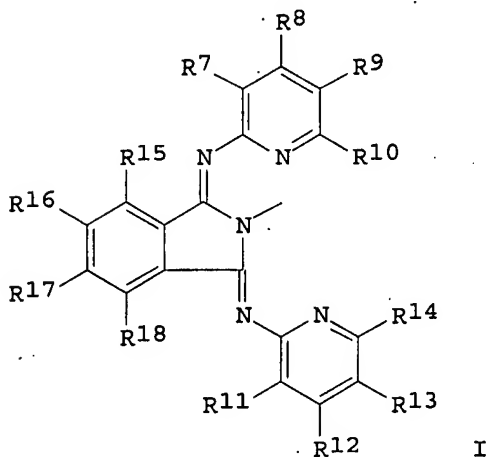
RN 617-94-7 CAPLUS  
CN Benzenemethanol,  $\alpha,\alpha$ -dimethyl- (CA INDEX NAME)



IT 98-83-9P,  $\alpha$ -Methylstyrene, preparation  
 RL: FORM (Formation, nonpreparative); PREP (Preparation)  
 (formation of, by dehydration of dimethylbenzyl alc., boroxine  
 catalysts for)  
 RN 98-83-9 CAPLUS  
 CN Benzene, (1-methylethenyl)- (CA INDEX NAME)



L14 ANSWER 5 OF 8 CAPLUS COPYRIGHT 2007 ACS on STN  
 GI



AB Tertiary olefins are prepared by continuous liquid-phase dehydration in the presence of a boric oxide catalyst, of formula  $\text{B}_2\text{O}_3 \cdot x\text{H}_2\text{O}$  ( $x = 0-3$ ), in which the reaction temperature and the b.p. of the solvent (typically a hydrocarbon) is  $>80^\circ$ . Spent catalyst is removed and charged to a following reactor in which it is regenerated by heating and recycled to the dehydration reactor. The tert-alc. (e.g., tert-BuOH, tert-amyl alc., or  $\alpha, \alpha$ -dimethylbenzyl alc.) is reacted at an alc.-catalyst ratio of 0.1-10:1 (preferably 0.5-2:1). The alc. is conveniently prepared by oxidation of the corresponding branched hydrocarbon in the presence of a transition metal complex, of formula  $\text{LnMXpY}$  (M is chosen from Fe, Co, Mn, and Cu; X is an anion chosen from carboxylate, alkylphosphate, alkylsulfonate, OH-,  $\mu$ -oxide, and  $\mu$ -peroxide; Y is chosen from alkylperoxo, aralkylperoxo,  $\mu$ -peroxo, or peroxo; and L is a tridentate chelating ligand of formula I). The tert-alkenes have application in manufacture of gasoline antiknock-extender additives.

ACCESSION NUMBER: 1994:11502 CAPLUS  
 DOCUMENT NUMBER: 120:11502  
 TITLE: Synthesis of tertiary olefins by chemical dehydration

of a tertiary alcohol in the presence of boron oxide catalysts

INVENTOR(S): Alagy, Jacques; Busson, Christian; Viltard, Jean Charles

PATENT ASSIGNEE(S): Institut Francais du Petrole, Fr.

SOURCE: Fr. Demande, 15 PP.  
CODEN: FRXXBL

DOCUMENT TYPE: Patent

LANGUAGE: French

FAMILY ACC. NUM. COUNT: 1

PATENT INFORMATION:

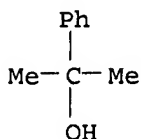
PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
FR 2686337	A1	19930723	FR 1992-629	19920120
FR 2686337	B1	19950602		

PRIORITY APPLN. INFO.: FR 1992-629 19920120

IT 617-94-7,  $\alpha, \alpha$ -Dimethylbenzyl alcohol  
 RL: RCT (Reactant); RACT (Reactant or reagent)  
 (dehydration of, to  $\alpha$ -methylstyrene, boron oxide catalysts for)

RN 617-94-7 CAPLUS

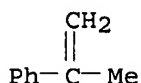
CN Benzenemethanol,  $\alpha, \alpha$ -dimethyl- (CA INDEX NAME)



IT 98-83-9P,  $\alpha$ -Methylstyrene, preparation  
 RL: FORM (Formation, nonpreparative); PREP (Preparation)  
 (formation of, by dehydration of dimethylbenzyl alc., boron oxide catalysts for)

RN 98-83-9 CAPLUS

CN Benzene, (1-methylethenyl)- (CA INDEX NAME)



L14 ANSWER 6 OF 8 CAPLUS COPYRIGHT 2007 ACS on STN

AB The liquid-phase epoxidn. of rapeseed oil and Me esters of its fatty acids was carried out using isopropylbenzene hydroperoxide (I) and Mo acetylacetonate catalyst. A kinetic model of reaction is given including the steps of activation of Mo, formation of metal-hydroperoxide intermediate, formation of another intermediate with olefin, and decomposition of complexes with product, byproduct, and catalyst recovery. The inhibition of the epoxidn. by I decomposition products was evaluated.

ACCESSION NUMBER: 1989:156428 CAPLUS

DOCUMENT NUMBER: 110:156428

TITLE: Liquid-phase epoxidation of rapeseed oil in the presence of isopropylbenzene hydroperoxide and molybdenum acetylacetonate. II. Kinetic study

AUTHOR(S): Martinez de la Cuesta, P. J.; Rus Martinez, E.; Rodriguez Maroto, J. M.; Martin Jimenez, F.

CORPORATE SOURCE: Fac. Cienc., Univ. Malaga, Malaga, Spain

SOURCE: Anales de Quimica, Serie A: Quimica Fisica e Ingenieria Quimica (1988), 84(3, Supl. 1), 336-41

CODEN: AQSTDQ; ISSN: 0211-1330

DOCUMENT TYPE:

Journal

LANGUAGE:

Spanish

IT 98-83-9P,  $\alpha$ -Methylstyrene, uses and miscellaneous

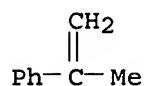
617-94-7P, Dimethylphenylcarbinol

RL: PRP (Properties); PREP (Preparation)

(formation and inhibitory effect of, in epoxidn. of rapeseed oil with isopropylbenzene hydroperoxide)

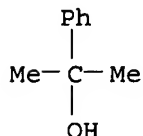
RN 98-83-9 CAPLUS

CN Benzene, (1-methylethenyl)- (CA INDEX NAME)



RN 617-94-7 CAPLUS

CN Benzenemethanol,  $\alpha,\alpha$ -dimethyl- (CA INDEX NAME)



L14 ANSWER 7 OF 8 CAPLUS COPYRIGHT 2007 ACS on STN

AB An application of transition metal catalysts, supported on silica gel, to several organic reactions was investigated under moderate conditions in liquid or vapor phase. Strong acid sites ( $H_0 < 3.3$ ) formed during the chemical fixation of the metal species to silanol groups on the gel-surface. The activities of the catalysts correlate approx. with the amts. of acidity, for typical acid-catalyzed reactions, e.g., the dehydration of alcs. and the isomerization of olefins. In addition, behaviors of the catalysis were also affected by certain electronic properties, such as the nature of d orbitals and the redox character of the resp. metal species, in the cases of hydroperoxide-epoxidn. of olefins and phenol-forming decomposition of cumene hydroperoxide. Remarkable features of catalysis were observed with the Ti- or Zn-supported type catalysts.

ACCESSION NUMBER: 1988:166804. CAPLUS

DOCUMENT NUMBER: 108:166804

TITLE: Transition metal species supported on silica gel. A versatile catalyst for organic reactions in liquid or vapor phase

AUTHOR(S): Kato, Shinichi; Yoshida, Shoji

CORPORATE SOURCE: Tech. Coll., Kyoto Inst. Technol., Kyoto, 606, Japan

SOURCE: Memoirs of the Faculty of Engineering and Design, Kyoto Institute of Technology, Series of Science and Technology (1986), 35, 25-37

CODEN: MFETEC; ISSN: 0911-0305

DOCUMENT TYPE: Journal

LANGUAGE: English

IT 98-83-9P,  $\alpha$ -Methyl styrene, preparation 617-94-7P,

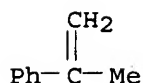
$\alpha$ -Cumyl alcohol

RL: FORM (Formation, nonpreparative); PREP (Preparation)

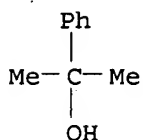
(formation of, in decomposition of cumene hydroperoxide, catalyst for)

RN 98-83-9 CAPLUS

CN Benzene, (1-methylethenyl)- (CA INDEX NAME)

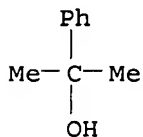


RN 617-94-7 CAPLUS  
CN Benzenemethanol,  $\alpha,\alpha$ -dimethyl- (CA INDEX NAME)

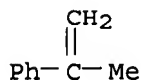


L14 ANSWER 8 OF 8 CAPLUS COPYRIGHT 2007 ACS on STN  
AB Catalytic action of addition agents for air-oxidation of cumene was studied. These addition agents are such basic compds. as alkaline earth metal oxides and peroxides, and alkali metal salts of weak acids. These agents lessen the formation of undesirable by-products and remove BzOH which is produced during oxidation and promotes the decomposition of a-cumyl hydroperoxide. These agents also increase the apparent oxidation rate and raise the maximum concentration of a-cumyl hydroperoxide, thus lowering the decomposition rate of a-cumyl hydroperoxide, induced with by-products a-cumyl alcohol and a-methylstyrene.

ACCESSION NUMBER: 1962:442639 CAPLUS  
DOCUMENT NUMBER: 57:42639  
ORIGINAL REFERENCE NO.: 57:8480f-g  
TITLE: Catalytic action of addition agents for air-oxidation of cumene  
AUTHOR(S): Tsunoda, Yasugoro; Matsumoto, Koryu  
CORPORATE SOURCE: Tokai Electrode Mfg. Co., Ltd., Fujisawa  
SOURCE: Kogyo Kagaku Zasshi (1959), 62, 155-9  
CODEN: KGKZA7; ISSN: 0368-5462  
DOCUMENT TYPE: Journal  
LANGUAGE: Unavailable  
IT 617-94-7P, Benzyl alcohol,  $\alpha,\alpha$ -dimethyl-  
RL: PREP (Preparation)  
(formation of, in cumene autoxidn.)  
RN 617-94-7 CAPLUS  
CN Benzenemethanol,  $\alpha,\alpha$ -dimethyl- (CA INDEX NAME)



IT 98-83-9P, Styrene,  $\alpha$ -methyl-  
RL: PREP (Preparation)  
(formation of, in cumene oxidation)  
RN 98-83-9 CAPLUS  
CN Benzene, (1-methylethenyl)- (CA INDEX NAME)



=> FIL STNGUIDE  
COST IN U.S. DOLLARS

SINCE FILE	TOTAL
ENTRY	SESSION
57.38	385.75

FULL ESTIMATED COST

DISCOUNT AMOUNTS (FOR QUALIFYING ACCOUNTS)

SINCE FILE	TOTAL
ENTRY	SESSION
-6.24	-39.78

CA SUBSCRIBER PRICE

FILE 'STNGUIDE' ENTERED AT 10:43:31 ON 08 AUG 2007  
USE IS SUBJECT TO THE TERMS OF YOUR CUSTOMER AGREEMENT  
COPYRIGHT (C) 2007 AMERICAN CHEMICAL SOCIETY (ACS)

FILE CONTAINS CURRENT INFORMATION.

LAST RELOADED: Aug 3, 2007 (20070803/UP).

=> log hold  
COST IN U.S. DOLLARS

SINCE FILE	TOTAL
ENTRY	SESSION
1.08	386.83

FULL ESTIMATED COST

DISCOUNT AMOUNTS (FOR QUALIFYING ACCOUNTS)

SINCE FILE	TOTAL
ENTRY	SESSION
0.00	-39.78

CA SUBSCRIBER PRICE

SESSION WILL BE HELD FOR 120 MINUTES

STN INTERNATIONAL SESSION SUSPENDED AT 10:54:13 ON 08 AUG 2007